HOME COMPUTING WEEKLY
AN ARGUS SPECIALIST PUBLICATION
September 10-16 1985 No 129 30p

CHOP SUEY
THE KUNG-FU CHALLENGE!
For ATARI 400/800/600XL/800XL/130XE—48K—
Cassette £8.95 Diskette £12.95
from
ENGLISH SOFTWARE

Glorious M.U.D. competition

The winner enters the dungeon

Double scoop! Special offers from BES and MIKRO-GEN

Synthesised for sound

Hybrids Music 500 system reviewed p.32

Acorn steals Atari's thunder

Acorn launched the successor to the BBC B+ at last week's PCW show at Olympia.

The new machine offering 128K with a full 64K available to BASIC will retail at £499. Known simply as the B+128K it is aimed at the serious home user and the small business market. With an eye to business applications the micro has greater data processing power for bigger spreadsheets, larger database, 20K screen and 64K RAM usable by BASIC.

Atari put the 520ST on public view for the first time at PCW. In the lead up to the show, Atari's Sales and Marketing manager Rob Harding commented that the £749.99 machine will be "the natural successor to the BBC Model B."

The BBC

With Acorn was fielding their own potential-heir to the machine that has now sold over 500,000 units it remains to be seen if Rob Harding's prediction comes true.

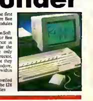
The first book on the Atari ST, called the Atari ST Companion by Jeremy Vine, was also launched at PCW.

The Commodore Amiga made a largely unheralded British debut on Metacomco's stand demonstrating the Bristol based company's software packages. The Amiga, introduced in America in July has still not been given an official launch date in this country.

Being demonstrated for the first time in Western Europe were Bee Cards, credit card sized modules with up to 256K memory.

The manufacturers, Hudson Soft have not fixed a UK price for Bee Cards yet, although the price in Japan is around £15. So far the Bee Cards are compatible only with MSX but managing director, H. Ishihara, told HCW that they could be adapted for Commodore, Amstrad and Sinclair micros within a year.

As expected, Enterprise unveiled their disc drive controller for the 128 as well as 30 new software titles.



Old names—New homes

The Bug-Byte label is being revived following the acquisition of the title by Argus Press Software.

ASP's Ron Harris said that Bug-Byte would be returning as a budget software label with games costing £2.50.

It is not a nostalgic marketing exercise Ron stated. "We won't be putting the old software from the back catalogue. If it's on Bug-Byte it will have to be new and it will have to be good. We intend to carry on the Bug-Byte tradition."

"Bug-Byte were one of the founder software companies in the days when it was all a cottage industry and the name is remembered with fondness.

Ron added that Bug-Byte, a label with a reputation for arcade games and adventures such as Twin Kingdom Valley was back not only in spirit, "but with a considerable amount of substance to it."

The first game available in about six weeks time is called Hey Zoot, and incorporates speech synthesis. Zoot "loses his marbles" down a monster infested drain system and has to recover them.

BUG-BYTE
SOFTWARE

● Your 64, the Commodore specialist magazine published by Sportscene, had been bought by Argus Specialist Press.

The October issue was the last to be produced by Sportscene and from November the more popular features of Your 64 will be published in Argus's own Commodore title, Your Commodore.

Meet William Webbler in our 6 pages of reviews p.10
Fit to print? A printer under £100 p.16
One step ahead! Tomorrow's releases today p.8
Your Hi-scores, cartoons and puzzles p.38
Meet the human fly with the day-glo socks p.27

MIRRORSOFT

SEPTEMBER SIZZLERS

BOULDER DASH

BOULDER DASH

One of the great classic games of all time is now available to even more of you – Amstrad and Atari owners everywhere can now experience the ultimate underground journey.

Search through the 16 caves, each with 5 levels of difficulty and collect as many jewels as quickly as possible. Don't forget to block the amoebas, transform the butterflies, or outmanoeuvre the fireflies — or you'll never get out alive!

Available September 5th

Amstrad CPC464 and Atari 48K versions back-to-back on one tape at £9.95.

ASHKERON!

'Ashkeron is something for everyone [illegible] [illegible] adventure [illegible] [illegible] excellent game [illegible]' — Home Computing Weekly

'[illegible] highly professional [illegible] [illegible] challenge [illegible] will be interesting and rewarding' — Crash Micro

'This game gets my royal assent' — Your Spectrum

'A[illegible] adventure' — [illegible]

Available now for
Amstrad CPC464 £8.95
Spectrum 48K £5.95

With [illegible] competition!

MIRRORSOFT

Maxwell House, 74 Worship Street, London EC2A 2EN
Trade orders to: Purnell Book Centre, Paulton, Bristol BS18 5LQ

The 8th Personal Computer Show

HOME COMPUTING WEEKLY

September 10-September 16, 1985 No. 129

QL HyperDrive
£14.95
THE QL RACING GAME!
FROM
ENGLISH SOFTWARE
TEL: 061-835 1358
ENGLISH SOFTWARE
ENGLISH SOFTWARE
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Soapbox

As we go to press with this issue of HCW, the PCW show is in full swing and all the major manufacturers are showing their new computers.

There are 128K, 256K and even 512K versions of some machines, featuring new processors which are claimed to be faster and better in every respect I have my doubts I'm afraid

They may have more memory and they may be faster but how long are the home users going to have to wait for software that makes the extra memory and speed worthwhile?

It strikes me that some of the manufacturers have lost sight of the fact that computing in the home should be FUN with a capital F, U and N

The new machines might have sound and colour but the price is too high for the home-user who isn't a millionaire to buy one Where is the toy computer that has added facilities and extra power at half the price?

That's the kind of machine that will sell well this Christmas. It might just be the Amstrad, at its new low price, certainly Sinclair don't offer much in the way of opposition — apart from the QL I think that's a very sad reflection on the British micro industry **Dave**

If you disagree, or agree, please let us know and perhaps you can feature in your own Soapbox.

SPECIAL FEATURES

Printers under £100 — two reviewed 16
Money off education from Bourne 19
Free games from Mikro-Gen 36

AMSTRAD

Programming games — more from Davis Ellis 24

BBC

Laser Revenge — game program 38
Music 500 reviewed 32

COMMODORE

It's a Guessing game on the C64 20

Coming soon...

- The thrills and spills of the PCW show
- Nidd Valley's Slomo under review
- It's a game — developed further for the Amstrad
- Ron Complex — reaching parts others daren't

SPECTRUM

Sketch it — Spectrum and Plus hints 31
Get a Mikro-Gen game free 36

PERIPHERALS

Acorn's Music 500 — is it a winner 32

REGULARS

Competition — wallow in the M.U.D 4
News 5
Software releases 8
Software reviews 10
Ron Complex — in a spot again? 27
Your letters 36
Readers page 24
Classified ads start on 34

Editor Dave Carlos
Assistant Editor Bryan Ralph
Editorial Assistant Kerry Fowler
Group Editor Wendy Palmer
Design Tony Keep
Production Assistant Lyn Collis
Ad Manager Dominic Forlizzi
Classified Advertising David Horne
Publishing Director Peter Welham

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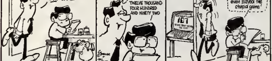
BASIC LIVING

Jim Barker/Jon Wedge


WELL I'VE MASTERED THAT GAME!
WHATS YOUR HIGHEST SCORE BILLY?
TWELVE THOUSAND FOUR HUNDRED AND NINETY TWO
Actually, I've never even played the stupid game!

Find the Wizard in yourself

M.U.D
MULTI USER DUNGEON

If you like to wallow in the M.U.D. then there are riches and fame for you in this weeks competition. It's The Great M.U.D Spectacular for the winner

F[illegible]

[illegible] on-line [illegible] and [illegible] Firebird games, but [illegible] all-expenses paid trip to the London Dungeon to participate in the first [illegible] the Great M.U.D Challenge on November 5th.

[illegible] runners-up in the [illegible] competition will also receive two Silver Firebird [illegible]

[illegible]

How to enter

[illegible]

The rules

[illegible]

M.U.D Competition

Entry Coupon

Name ______________________________

Address ______________________________

____

____

______________ **post code** ______________

The name of my M.U.D mortal is ______________________________

Description (in nor more than 20 words) of my M.U.D mortal ______________________________

____

____

I am a ______________ **user (write your computer here)**

[illegible]

NEWS

Switched on for lights-out

The more avid home enthusiasts might have a compost-driven generator in the cellar to combat the programmers perennial nightmare, the powercut but for the less dedicated Power Equipment's new 120 VA model power bank could turn the nightmare into mere whimsy.

This unit gives you emergency power for 20 minutes — enough time to transfer working copy to disc. Working from batteries continuously recharged from mains supply, the unit will signal an audible alarm when the input voltage fails.

However, it's up to you to generate the £495.00 (exc. VAT) to cover the cost of the unit.

Power Equipment Kingsbury Rd London NW9 8UU

Time in hand from the 120 VA Power Bank

Educational software made easy

If you've had difficulty acquiring educational software when and where you need to then your burden will be considerably lightened with the establishment of BESA.

British Educational Software Associates is an alliance of eight edsoft firms which will appoint specialist retailers who can assure schools supply from BESA's 250-title catalogue.

Schools and colleges can expect most selected retailers to take official orders and requisitions. The 1985/6 catalogue is now available from BESA.

BESA, 4 Little Essex St, London WC2R 3LF

Sorry seems to be the hardest word

HCW would like to apologise to Virgin Games for the error in issue 128 which wrongly attributed Virgin's Now Games to Activision. Now Games which comprises six top class games on one tape — received a flipped rating from HCW and costs £8.95.

Virgin Games, 2-4 Vernon Yd Portobello Rd, London W11 2DX

Byte Busters

Winners of our silly game of the week competition this week (only joking) are Hobbyte Home Computing of St Albans.

At the Annual Carnival they had a float based on the game Ghostbusters and had a number of their staff and friends dressed for the part. There was Gozo, the marshmallow man, Blob and a team of "busters" ready to deal with any stray psychic phenomena.

The float was awarded 2nd Prize for their efforts and the population of the town were suitably scared. Dr John Jux, managing director, commented "Although we have a reputation for helping people to be less frightened of computers, our younger customers got a great kick from being scared by the Hobbyte team today."

The company are not at all despondent about the future of home computers and have shown their faith by opening a new shop in the St Albans Market Place. They are seeing an increasing demand for more powerful machines which encourages a higher standard of quality and sophistication for programs and games.

If your local shop or computer club have taken part in any carnival or similar event please let us know and we will try to include details in our pages.

Eat your heart out Notting Hill

BBC Micro viewdata communications system
XYLLYX
XYLLYX
XYLLYX
XYLLYX
XYLLYX
XYLLYX
XYLLYX

A name to play with

The [illegible] modem is [illegible] and a new [illegible] just joined in the [illegible] if you can say it we think [illegible] claim a [illegible] announced a [illegible] Viewdata package [illegible] computers which [illegible] modems for 1200/75 operation.

Further details are scarce [illegible]

Xyllyx, Whitechapel Tech Centre, 75 Whitechapel [illegible] London E1

Ani-mation

It was a hot and humid day in August with the ball point pens dripping molten plastic onto our hands. The typewriters were jamming due to overheating and as for the editorial staff they were sitting in pools of perspiration.

When looking like a refugee from an ice factory the super cool postman arrived with a parcel from none other than CGL.

Kerry was the only one with enough energy to open the parcel and what a joy it was. Inside the bubble packing were two cardboard boxes containing, wait for it, two cuddly toys.

Well that did it, the office hopped and all eyes were on the HCW desk as the penguin and the cow walked, mooed and quacked — well what do you call a penguin noise — across the desk.

"What are they doing here?" I asked. "They are mini computers" was the reply. "If that's true I'll take them apart." That did it!

Umpteen pairs of hands descended upon the toys with such speed that my eyes couldn't follow the rush. The basic idea was that I was not to do any such thing and CGL's Ani-Mates remain completely intact with their microprocessor still hidden.

If ever I manage to prize them away from their protective keepers I will bring you a full report on their robotic innards. Watch this space.

If you too would like the chance to cuddle your own micro processor toy, CGL have generously offered us two cows and two penguins for creative HCW readers. All you have to do in this mini competition is think of a suitable name for the two animals which reflect their endearing features.

You need to find a name which will reflect both the sweet and cuddly nature and the high tech image too. We didn't say it would be easy! When you have [illegible] while over this [illegible] write your names on the coupon and post it to us to arrive not later than Friday October 4th and the best names chosen by the Editor will be sent a cuddly toy by CGL.

The usual competition conditions apply — see competition page in this issue for further details. It is essential that you write the name on the back of your envelope and that you address the envelope correctly.

CGL Ani-Mates Competition
Entry Coupon

My name for the cow is ____________________

My name for the penguin is ____________________

Name ____________________

Address ____________________

____

____________________ Post Code ____________________

Please complete clearly and fully — if you are a winner this will be the address coupon for your prize. Send to Ani-Mates, Home Computing Weekly, No 1 Golden Square, London W1R 3AB. To arrive not later than Friday 4th October 1985 [illegible] of Undertones [illegible] has eight [illegible] with a [illegible] a 20 [illegible]

Ingersoll, Winchester House, Canning Road, Wealdstone, Harrow, Middx HA3 7SJ

Drive it away

No this isn't another disc drive story — How do you fancy a new Porsche 924S?

Star Printers are offering such a machine in their new autumn promotion and all you have to do to get a chance of the big prize is buy one of their products between now and March next year

The car theme is taken even further for during this period there will be the chance to "test drive" one of the printers at your local Star dealer All you have to do is ask for a demonstration and the printer will deliver an entry form for another competition in which you can win one of the five Star SR-10 printers on offer.

So if you're feeling lucky or your stars are in the right houses this could be the time to get along to your local dealer with your driving gloves and goggles Good luck!

Star Micronics, Craven Hse, 40 Uxbridge Rd, Ealing, London W5 2BS

My other car's a Mini

Pool winners

The Hustler competition (HCW 124) nearly gave our postman a hernia as he heaved sacks containing the hundreds of entries into our offices. It proved to be the most popular competition for some time and one hundred winners will soon be changing their names to the Tilbury Typhoon or the Hartlepool Hurricane as they come to grips with Bubble Bus's computer pool game.

The answers to the six questions were, 1 chalk 2 Paul Newman 3 Kryptonite 4 Oval 5 Thames 6 Everton When the first letters of the six words were rearranged they become the word, pocket

The hundred winners are

Cwmbran; John Collins, Manchester, Roger Morton Normanton, Stephen Ogden, Felixstowe, A Clarke, Southampton, Jamie McLellan, Penge, David Kell, Truro, R Robertson, London E2, Ronald Pearson Clydebank, Kevin Thorold, Portsmouth, Micheel Dumbarton, Newcastle, Keith Hindhaugh, Alnwick, Mark Srebalius, Manchester, A Gregory, Dagenham, Michael Jones, Bayswater, Gerald Goodwin, Nottingham, Mark Gregg, London N8, Ian McAllister, Co Down, David Cambell, Dumbarton, J Bridge, BFPO 45, Andrew Busby, Manchester, D Powlson, Luton, G Dawson, Leicester M Mawson, Slough, Simon Maders Stockport, David Porter, Rochford Paul Delph, BFPO 29, Sean Lavery, Co Down, P Shepherd, Nottingham, J Dawson, Sheffield, M Gough, Hersham, P Appleyard, BFPO 110, Scott Thomson, BFPO 42, A Rahman, Nottingham, Dennis Lawrence, London E18 Gerry Garside Alnwick, D Dickerson, Huntingdon, Donald Henderson, Glasgow, David Corcoran, Coatbridge, Lee Frere, Haverhill, Steven Donaldson, Aberdeen, Ian Beeton Newcastle Under-Lyme, Simon Hunter, Hartlepol, Neil Bishop, Melton Mowbray D Harris, Barbican, David Lim, South Benfleet, Michael Pendry, Tredegar Darren de Courcey, Manchester, Brian Buckley, Oldham, R Sutton, Molesley, Mick Cliff, York, Sean Lally, Sydenham James Preston, Carlisle, Paul Baldwin, Barnet, S Christian, Liverpool, T Richards, Oldham A Edmunds Wandsworth, Jamie Roche Poole, Salvatore Costa, Battersea, C Glasspool, Bexleyheath, Richard Walker, Dudley, Shane Parris, Abergeavenny, Denny Boles, Poplar, David Shiels, Bolton

R M Caton, Laindon, Tim Prince, Ware Bryan Steele, West Drayton E Jones, Coventry, Chris Crane Stoke-on-Trent, Royston Lewrence, Stourbridge, Jonathan Biddle, Leiston, Keith Mawson Slough, Anthony Scott, BFPO 807 Clive Evans, Basingstoke, S Cole Helensburgh, Martin Simmons Meldon, John Jessop, Harrow, Gary Bird, Newport, T Britton Boverton, Terry Duckworth Bingley, R Houlton, St Helens Tom Haggie, Wickersley, A Back, Bakewell, Andrew Bird, Ripley Ian Murphy, Liverpool, C Coles Leamington Spa, A Thorpe, Seaham, D Brown, Winchester, B Mitchell, Lenton, D Behm, Hampton, James Clarke, Consett George Overy, Peekham, Edwin Desewu, London W11, V Tondeller, Oulton Broad, Ray Tunstall Darlington, Malcolm Arnold Leeds R Bashford, Battersea, D Nicholls, Holborn, Kevin Betteridge, Cradley Heath, Jason Wilshaw Pershore, Philip Rice

RELEASES

Bits and Pieces

The horrors of Spanish package holidays are brought to life in **Terrormolinos**, a spoof game by the same authors who brought you Hampstead. Melbourne House's spoof game confronts the player with the perils of the beach, sea, bullring and the grim encounters of a culinary kind in the restaurants. In **Terrormolinos** it is claimed that "every holiday disaster can come true." The game is available for Spectrum, BBC/Electron, C64 and Amstrad at £7 95

A program for those in two minds is **Schizophrenia** from Quicksilva in which the mad scientist's assistant creates an alter ego which sets out to ruin life in the lab. Alfonse the assistant tries to get back together with his other half but his "doppelganger" is hell bent on getting Alfonse made redundant from his job as lab cleaner by playing dirty tricks. Costing £7 99 **Schizophrenia** is available initially on the C64 with a Spectrum version to follow. **Monty on the Run**, the sequel to Gremlin Graphics' Wanted! Monty Mole is due for release on 8th October for Spectrum (£7 95), Amstrad (£9 95) and C64 (£9 95 and £11 95 for the disc version)

For the less serious minded, New Generation's Fun 'N' Games range sounds like good slap-stick stuff. **The Custard Kid** is searching for a secret recipe but not only has he 600 locations to wade through but the security guards are out to put him into custardy

WISH YOU WERE HERE IN..
TERRORMOLINOS

Cliff Hanger is not quite as messy but there's still the chance of a sticky ending in what turns out to be a whacky cartoon-like game. Available from the 12th September Fun 'N' Games are for the Spectrum and priced at £4 95

Coming later in September are two new utilities for the Spectrum from OCP. Art Studio promises to be "not just a graphics program but a full artist's studio" with 16 pens and 8 random sprays to aid the budding David Hockneys among you

Word Maanger should satisfy those with a more literary or practical bent — both OCP programs are on cassette and disc priced at £12 95 and £19 95 respectively

World's worst

Global Software are making a serious attempt to carry off the "worst film tie-in computer game ever made" award by securing the exclusive rights to **Attack of the Mushroom People** for a fee probably in excess of two luncheon vouchers. But it won't end there, with a grim determination bordering on obsession Global will be bringing out a series promising "all the intensity, drama and bad acting of some of the planet's worst movies"

You can be thrilled to distraction as the crazed Mushroom People attack the seven crew members of the yacht that has sailed into their sacred bay. But calm yourself. Attack of the Mushroom People won't be available until mid-October. Spectrum, Amstrad and C64 owners await with trepidation

In the meantime Global are set to release **The Magicians Ball**, an adventure set in the distant past when magic flowed like tap water. You can control two characters, Caro, an adventurer, and Azul, a white witch in your quest to defeat the evil magician and free the king's daughter. The adventure is accompanied by music adapted from Mike Oldfield's Tubular Bells album. The C64 version is released today (£7 95), and Spectrum and Amstrad version will be available on September 9th

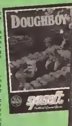
South Bank is a real time graphics adventure game set on London's South Bank complex and the 200 locations include Festival Hall, the National Film Theatre and the National Theatre. In a bravely optimistic news release Global announce: "This program seems doomed for the sort of success that followed the Beatles' [illegible] potential rise". Amstrad and Spectrum versions are due out on September 7th (£7 95 and £6 95) followed by the C64 version on September [illegible]th (£7 95)

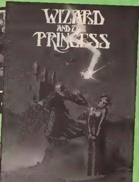
Gold in them thar hills...

US Gold have announced the Spectrum version of **Bounty Bob Strikes Back** will be available on September 23rd (£7.95). Already available on the C64 and Atari **Bounty Bob** is the sequel to **Miner 2049er** and has Bob back down the pit encountering such things as Moving Weirdos and Mutant Organisms while avoiding such occupational hazards as acid-rain, pulverisers and the mobile suction unit.

Only slightly less subterranean is US Gold's new trench warfare game **Doughboy** in which you try to go over the top and cross no man's land. Enemy troops are moving in the opposite direction and mortar shells are falling around your ears. Your aim is to recover the supplies which have been scattered across the battlefield and return to your own lines. **Doughboy** is available for the C64 and costs £9.95 or £14.95 (disc).

US Gold have also released **Wizard and the Princess**, a save the fair damsel adventure in which you are pitted against the magician Harlin who has whisked the princess away to his horribly cobwebbed castle beyond the Great Mountains. **Wizard and the Princess** is for the C64 price £9.95 or £14.95 (disc).





Amstrad
CPC464
STARION
by David Webb
Formula One

Amstrad off-sorts

[illegible]

CBM 64 CASSETTE
Trivia U.K.
WHO WROTE THE GODFATHER?
WHO HAD CHANNEL No 5 SPRAYED IN THE RING BEFORE HE WRESTLED?
WHO WOULD YOU USE THE HE MUCH MANOEUVRE ON?
ANIROG

Jet Set Willy

The revolutionary thing about this game is the way it is presented. To my knowledge it is the first game to be produced on one of the credit card sized Bee Cards which promise to change the world of cartridge games

The game is the follow up to Manic Miner and follows the story of Willy the Miner after he has found fame and fortune Our dissolute hero has just gained fame and thrown a party for his friends who are an untidy bunch, leaving bottles and glasses all over Willy's house to the annoyance of his wife, Maria

Despite the fact that the morning has broken, Maria insists that Willy tidies up the house before he goes to bed You must guide him around his amazingly lethal home to help him in his drink sodden quest

Not all of the rooms contain party debris but strange creatures lurk in all of them there are floors within each room and the only way to pess along many of these floors is to jump Really, if I had Willy's money I would rather go out and buy another house'

This game is well known on other machines and this is a good conversion but a little slower than the Spectrum equivalent The main advantage is the instant load which the card permits and an adapter is provided which slots into the cartridge port so that the card can be slotted in **E D.**

Price: To be announced

Publisher: Hudson Soft (UK)

Address: 26 Wycombe Gardens,
London NW11 8AL

MSX

Trivia UK

At last an acceptable version of Trivial Pursuits, the game which dominated Christmas stockings last yeas Unlike US Gold's Monster Trivia, this is an accurate copy of the game with questions tailored for British players

The questions are loaded in from a main program from two double sided cassettes containing over 1400 questions

Between two and four players can join in the fun as they travel around a board answering general knowledge questions on a range of subjects Each correct answer allows the player to move the number of squares which have been determined by the throw of an electronic dice The best feature is that answers are called out by the player rather rather than typed in so if, like me, your spelling is atrowshus it woant loes you poynts'

After calling out an answer, a press of a key will reveal if you were correct and your symbol will move around the board if you say you were correct Never play this game with a nimble fingered cheat

Some of the squares are larger than others to indicate that they are bonus squares These should be your focus of attention because success on one of these squares wins a piece of pie and the first player to gain six pieces wins That is assuming you can jump the last hurdle when your opponents are invited to select a final category of question that must be answered for success

The game owes more to its contents for its attraction than to its presentation The graphics and sound are fairly rudimentary and loading the questions takes a long, long time A little more thought should have gone into the program when the computer is searching for a question Normally the question appears almost instantaneously but occasionally it can take a while before anything appears on the screen and I found myself wondering if the computer had crashed

The level of the questions is what I would class as inter mediate, not too hard but not too simple This doesn't matter too much because there is an editor program which allows you to compile your own question tape if you wish.

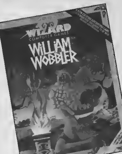
My overall opinion is that this is the best Trivia game available for the C64 only because it has very little opposition It probebly won't be long before it is superceded by a better presented version, but at least it's relatively inexpensive **E D.**

Price. £7 95

Publisher: Anirog

Address· 29 W Hill, Dartford, Kent DA1 2EL

C64



William Wobbler

If you own a disc drive you could find yourself becoming very popular in the near future, and William Wobbler is the man to thank. It is all because Wizard are offering a £1000 prize for the first person to crack the secret of William's world and you need access to a disc drive to enter

Who is William? Well he's a cartoon character dreamed up by programmer Toby Crowther, and he's called Wobbler because he wobbles a lot (William not Tony) As William walks his head jiggles around almost uncontrollably over his gangly body Despite his ungainly appearance, William is a man with a mission because scattered around the tunnels beneath his world are clues which could lead to the superb prize

He can enter the world through any of ten hollow tree trunks which each lead down to a passageway and each passageway is guarded by a droid There is only one way that he can pass these guardians and that is to find the glowing orb which lies at the end of the only unguarded passage

To find this passage he must jump down each hollow tree trunk in turn, avoiding a rather vicious lady with a large club and a blue bird which swoops up and down across the screen There is only one way to escape a guarded passage and that is to go deeper underground where a long tunnel leads to a rope A series of snakes and flying frogs lurk here but, with care, these don't provide much of a problem

Once in possession of the orb, William can investigate all of the other passages, picking up objects which may be of use as he goes and collecting any clues that he finds Most of the objects are useful but some are not, only trial and error will tell

Keys lie around down here and they open locked doors which lead to yet more passages full of falling rocks and flying debris Behind one of these doors lies the route to a floppy disc which can be placed into a subterranean disc drive allowing William to save his current collection of goodies and guarding against the loss of his single life

This is a superb game with excellent graphics and lots of interesting problems to solve

E.D.

Price. £9 95 £14 95 (disc)

Publisher: Wizard Development Company

Address Alpha House, 10 Carver St, Sheffield A1 4FS

Mail Order Monsters

When it comes to game concepts, the Americans seem to have some pretty bizarre ideas This game is possibly the zaniest I've seen to date The idea is simple, you must enter your pet monster in a fight to the death against another

So where do you get your monster? The answer is in your mail order catalogue! First you choose one of 12 basic MORPHS — Mail Order Psychon Heroes These range from crabs to dinosaurs With the balance of your available cash you then buy a series of extras These include armour and weapons as well as monster's attributes — speed, muscle, etc The choices give you a huge range of possible monsters Once all is set, you choose the type of battle and the terrain Three types of battle are possible — straight hand to hand destruction, capturing flags and dealing with a hoard of invaders

Beyond this basic game, you can progress to tournament which offers many other refinements. Surprisingly enough, this isn't a mindless zap-the-nasty game, and tactics and thought are an integral factor

Not surprisingly, the graphics are to a high standard with some splendid multicolour monsters The view of the action is from above with a scrolling map of the terrain When the combatants engage, the map zooms in to the immediate area of battle

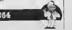
This is a novel game which is great fun to play and a fair challenge. The price is a touch too high even for a disc based game

M.W.

Price £14.95 (disc only)

Publisher. Ariolasoft

Address: Suite 105/6 Asphalte Hse, Palace St, London SW1E 5HS



★★★★★

Flipped

★★★★

Hooked

★★★

Keen

★★

Yowning

★

Comotose

London Adventure

It's games like this that give adventure players a nasty headache I can't understand why software companies even accept this kind of stuff in the first place I enjoy both adventure and arcade games, but when I load something like this into my Spectrum I really do wonder how they expect to get good reviews

The game itself is quilled, but what a mess! I have seen many games done on the quill and know it can produce far better than this

At the start of the game you are situated in the Greenwich observatory Then you have to try and work your way through London and all its sites, collecting and using objects as you go, to end up at a safe-deposit box You then enter a series of numbers which are found within the game and you've cracked it

There are plenty of locations, but the game itself lacks depth and playability Another thing to point out is that you have to complete the game in a certain number of turns If you exceed the limit you won't be able to open the deposit box, thus not allowing you to troop around the different locations getting familiar with them I think the game is overpriced by at least £2, and would disappoint a beginner

I don't think I could recommend this game to anyone except tourists, who may find it a convenient guide of London This is just another slapped together game which should be avoided completely

● C.

Price £4 99

Publisher Fridaysoft

Address Unit F, The Meltings, Station Rd, Sawbridgeworth, Herts CM21 9JX

SPECTRUM

Jet Set Willy II

It's a little surprising really, that JSW II passed with so little comment That's partly Software Projects' own fault of course, for trying to flog it as a new game when it's just the original JSW with extra rooms Admittedly there are quite a lot of new rooms, almost doubling the size of the game, but after all the times I've played JSW I just couldn't work up the enthusiasm to go through all those familiar scenes in order to find the new ones

It's also an indication of how far Spectrum software has come in the year and a bit since JSW was launched Way back then the game represented the state of the art The quality of the graphics had everybody stunned, and the sheer number of rooms in the game was unsurpassed Now of course, JSW II, with no real enhancements, looks quite dated, and if it weren't for the connection with Matthew Smith's original game it could easily be dismissed as just another old fashioned platform game — just another JSW clone in fact

It's still an enjoyable game, there's no doubt about that, and some of the new rooms are just as infuriatingly addictive as those in the original But, if you've got the original and you're still in the market for a platform game, then you might be better off buying a game that is entirely, rather than just 50%, new

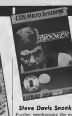
C J.

Price £6 95

Publisher: Software Projects

Address: Bear Brand Complex, Allerton, Woolton, Merseyside

SPECTRUM



Steve Davis Snooker

Further emphasising the excellence synonymous with the name on the game, this superb implementation is uncannily close to the real thing

The challenge to improve your performance at the table becomes overpowering as your full sized problems are reflected on the small screen

Having neither cue to chalk nor chalk to loose, setting a small black cursor cross determines all the angles

Speedy movement and fine control are both incorporated as the cursor has a two speed gear box Allied to this is the automatic return to the blue ball position at the centre of the table, giving the shortest distance across the cloth to any position required

A wide-ranging linear display at the bottom of the screen sets up the power of the shot from genteel to please-can-I-have-my ball back Strength is set to half-power before each players turn

The third parameter controls the spin on the cue ball Displayed at the bottom of the screen as a large white circle representing the cue ball, on which the spin cursor, another cross-sight is positioned

This facility enables back spin, top or bottom to be applied to the cue ball with devastating effect upon a lesser opponent

A one player game allows for all those hours of practice that Steve has done and you have been promising yourself Shots can be re-set and played again — a very helpful facility

D.H.

Price: £12 95 (disc)
£8 95 (cassette)

Publisher: CDS Microsystems

Address. Silver Hse, Silver St, Doncaster, S Yorks DN1 1HL

AMSTRAD

Android Two

I never got round to playing Android One, so I cannot make much of a comparison between the two games However, if Android One is anything like Android Two then I'm surprised that they even considered releasing a sequel

The best feature of the game is the maze design which is pretty tortuous particularly when you are attempting to move at speed As you move around its confines, you must watch out for static land mines, Hoverdroids, Bouncers and Millitoids These malevolent creatures will cost you a life if they manage to touch you but with the exception of the bouncers, all can be slain with your mighty laser blaster

The game features wrap-around screens so as you reach the edge of one screen, the next scrolls on This is fine in theory, but the scrolling isn't really fast enough and this does become annoying when you are moving through the maze at the edge of the screen

The game is split into three zones which all require the same creature-dodging and eradicating skills I admit to not getting past the first zone, but then I didn't lose that much sleep over my failure either The game just doesn't have that addictiveness which makes a game a winner It has all the expected features, high score, time limit, detailed graphics and progressive difficulty but it is not different enough to warrant a £7 95 release price

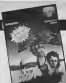
C.G.

Price £7 95

Publisher: Vortex

Address: Vortex Hse, 24 Kansas Ave, off South Langworthy Rd, Salford M5 2GL

AMSTRAD



Way of the Exploding Fist

I understand that Melbourne House now want to build themselves a reputation for arcade games that's as good as their reputation for adventures If Exploding Fist is typical of the standard of the arcade games they've got lined up, then they're not going to have any peoblems at all on that score

Exploding Fist pits you and your martial arts skills against the computer or a second player, as you attempt to progress from humble novice ("Ah so, Grasshopper") to computerised Bruce Lee (or even Miss Piggy — hai-ya!)

To achieve this you must gain mastery over the mysteries of the 18 joystick controlled movements, which include a wide range of kicks, punches and defensive movements My own personal favourite manoeuvre is the graceful somersault, followed by a boot in the face — violence with a touch of class, just my style Of course, your opponent has just as many moves that he can make (both figures are male I'm afraid, there are no optional Emma Peel figures that can be used by female players), and he isn't above landing a few elegant haymakers himself

The graphics are excellent, clear and smoothly animated, and there's a satisfying crunch emitted whenever you make contact There are also some nice touches, such as the rather smug way in which your opponant straightens his jacket after stomping you into the ground

Mastering all the available movements will take some time, so there's a lot of enjoyable playing time to be had

Ah so, Grasshopper **C.J.**

Price: £7 95

Publisher: Melbourne House

Address: Castle Yd Hse, Castle Yd, Richmond, London TW10 6TF

SPECTRUM

Convoy

Convoy is a two player naval strategy game based on World War Two, covering the Atlantic Ocean and the North Sea Each player commands a fleet of warships, an air force and a convoy of merchant ships, with the objective of supplying their own country and blockading their opponent's

Each turn you may signal to any of your 17 ships to alter their speed and course, remembering to allow for the wind, and the positions of all your ships are given — so your opponent must promise not to look! Only when all the signals have been completed can both players view the screen together, but then only the location of ships in port is given which takes several minutes to print up

If visibility is good aircraft can be sent out, when an enemy ship is found there is a simple action sequence in which you can try to bomb your opponent's ship If two ships sight each other the fight is automatic Damaged ships can be repaired by returning them to a home port

Comprehensive instructions and a map are included There is no time limit, so the game can be recorded before the start of each turn

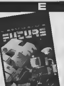
There are so many ships under your control that it becomes tedious to keep track of them and alter their positions in line with a strategy Nevertheless, war game enthusiasts will appreciate the amount of detail included, although Convoy can only be recommended if you can find a worthy opponent **S.J E.**

Price: £2 99

Publisher: Rino Marketing Ltd

Address: 1 Orange St, Sheffield S1 4DW

SPECTRUM



Project Future

In this space game set in the innards of an evil ship, the SS Future, your task is to penetrate the five decks, ward off the nasty droids, monsters, use the teleport to move between decks and find the codes to activate the ship's self destruct system Then get out quick! In other words, it's a shoot-'em-up-collect-the-objects-maze game

Though the brief instructions promise music, I didn't find any The sound effects of lasers and zaps were particularly effective however — even more so in stereo Graphically the maze, drawn in Mode 0, is very colourful and effective, with pseudo depth achieved by careful use of shading, and flashing inks used to colour various gizmos like condensers, pipes and so on The characters are also well done, when zapped they are recreated in another form and follow obediently to mortify you Movement is smooth, but a hint of flicker is present

Keeping your fire button pressed dispenses with most of the aliens, and, as they reappear very quickly, you have little time to appreciate the graphics There's also no time to map the ship, but using the teleport is fun Even so, progress is not easy as the challenge lasts for 256 screens

I would like to have seen a full hi score table, demo mode, some music, and a colourful start up screen rather than just the program title in standard characters, and the chance to zap aliens permanently would have added to the game's appeal **D M**

Price. £8 95

Publisher: Gremlin Graphics

Address: Alpha Hse, 10 Carver St, Sheffield S1 4FS

AMSTRAD

Tour de France

All of you lazy cyclists will love this game, you can enter the famous Tour de France cycling race and complete it in only a few hours while sitting in the comfort of your living room with a pot of coffee and a packet of biscuits

There are 16 different sections of the track that you can cycle along Each section is loaded off tape seperately as it is needed There is certainly plenty of variety to choose from The program gives you the choice of playing through the entire race or just certain sections of it Playing the entire race takes a very long time and tends to get boring

The colours of the background, border and your cyclist are user-definable The player selection screen contains a list of different nationalities and their respective flags, you may choose a nationality, enter your name and select the sections of the game you wish to play Next the first section of the race is loaded and away you go The graphics are displayed in 3D and contain plenty of detail, the spectators even wave at you

To peddle your cycle you have to move the joystick from side to side Turning is achieved by holding in the fire button and pressing the joystick in the direction that you wish to turn The instructions are quite comprehensive and provide plenty of heavy reading The game is certainly original and gives good value for money

K I

Price: £9 99

Publisher: Activision

Address: 15 Harley Hse, Marylebone Rd, Regents Pk, London NW1 5HE

C64

BLUE RIBBON
Q MAN
BBC MODEL B

Q-Man

Pyramid decoration is the name of the game in Q-Man, a version of Q-Bert, from Blue Ribbon Software

Q-Man is a small red chap who is 75% nose His job in life is to wander his way around the outside of a pyramid Every time he steps upon a stone it changes colour The aim of the game is to manouvre Q Man onto every stone, thus re-decorating the complete pyramid

This would not prove too difficult were it not for the maniac snooker player who hides behind the pyramid This character constantly lobs a snooker ball over the top of the pyramid The ball then bounces from stone to stone on it's way towards the bottom of the screen Should you be unfortunate enough to be caught by the ball then you can say goodbye to one of your Q-men You begin the game with three men but aquire a new man for every screen completed This is quite a generous allowance and can result in some quite lengthy games

As the game progresses the bouncing ball is accompanied by a large snake which also jumps around the pyramid, usually in your general direction On both sides of the pyramid there is a small disc By jumping your man from the pyramid onto the disc he is miraculously transported to the top of the building Great for getting out of those sticky situations

Q-Man is a reasonably accurate version of the arcade game, but the action can become a little sluggish at times

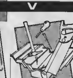
J.R

Price £2 50

Publisher: Blue Ribbon Software Ltd

Address Silver Hse, Silver St, Doncaster, S Yorks

BBC



Make Music with Mistertronic

Commodore 64 owners possess one of the most sophisticated sound synthesis chips on the market Controlling it from BASIC however, is a real pain, hence the increasing number of utilities and music and voice synthesiser programs You can pay over £50 for these programs and now as little as £1 99 So, what do Mastertronic offer for £1 99? Answer — not a lot!

What you do get however is easy to use You compose tunes in the musically natural way, placing notes onto a five line stave, selecting the length of note, quaver to dotted semibreve, by joystick or cursor controlled pointer Only a single note melody up to about 100 notes in length is possible, notes being selected from a 12 note scale There's a menu of five instruments, trumpet, piano, guitar, recorder and trombone Only the recorder is realistic (the trombone sounds more like a bass guitar), and the rest sound nothing like the real thing

Tunes can be saved and loaded from tape and three sample tunes are included with the program The instructions claim that the music can be printed out onto a Commodore printer, but it didn't work on my Commodore MPS 802 The most irritating feature was the inability to edit a tune, other than deleting the notes from the end

Whilst it's very limited, it kept my five year old son quiet for a couple of hours composing er — tunes That's worth a couple of pounds on its own

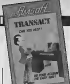
B.J.

Price: £1 99

Publisher: Mastertronic

Address: Park Lorne, 111 Park Rd, London NW8 7JL

C64



Transact

Transact is a book-keeping system for small business It presupposes knowledge of Double Entry book-keeping, it does not set out to teach book-keeping However, if you are already running a business and wish to simplify your accounting procedure then this program may be of help It sets out to speed up the process of recording and reporting a company's financial affairs in a manner consistent with normal accounting practice

The program is menu-driven, and comes complete with pre-set demonstration Accounts file On running the program you are asked for a report date and then given the option of loading an existing file or creating a new one There are 10 preset key accounts headings, and 90 account headings to be defined by the user Once headings have been defined the menu offers the options of accounts file handler, process transactions, restart program, or end Choice is by single key-press, extremely easy to use Each option is menu-driven, with a clear screen layout Pressing **enter** returns you to the main menu

Other options include automatic VAT calculation, end of period profit and loss update, summarise entries by total or item, and journal facility Input of information is extremely simple, and the constant security reminders a nice touch The manual claims the program to be protected against user error and in testing this seemed to be the case

The only true way to test a program like this is in everyday use If you are looking for a simple to use, comprehensive book-keeping program then this may be what you are looking for

A.W.

Price: £29 95

Publisher Amsoft

Address 169 Kings Rd, Brentwood, Essex CM14 4EF

AMSTRAD

BIO-DEFENCE

Bio-defence

The idea of defending a body from the invasion of a talking virus is certainly novel and should have resulted in a better game than this

At the start, the virus introduces itself as "Inectorf M" and informs you that it is active The main screen shows a human outline drawn over a mapping grid along with the body's present temperature and a nice EKG display which blips away cheerfully while the body is healthy

Your joystick controls a target square moving across the grid When it is over a highly infected area a star lights up A quick press on the trigger then takes you into the patient's bloodstream where you become a white corpuscle chasing after lots of black dots and chains in a simple maze You destroy the virus by swallowing all the dots Eating too many of the chains too quickly causes the corpuscle to turn black and die and raises the patient's temperature, when it reaches 108 degrees the patient dies

The movement of the corpuscle is well done, but the other graphics used in the game are poor and make no use of the Atari's capabilities

The virus speaks with a deep, gutteral voice which is very hard to understand In fact the only thing that kept me playing this game was the need to hear the spoken phrases several times to understand them

A set of instructions might have helped, but at £9 95 this game will always be poor value for money

K.F.S.

Price: £9 95

Publisher: Tymac

Address Unit 78 Standard Way, Gravelly Ind Pk, Tyburn Rd, Birmingham B24 8TL

ATARI

THE LIVING ADVENTURE MOVIE
DRAGONTORC

Dragontorc

It looks like Merlin the magician has gone and got himself into trouble again As his life long buddy, Maroc, it is your unenviable task to try and rescue the old fool Herein lies the theme of Dragontorc from Hewson Consultants Dragontorc is a program which falls into that relatively new, but increasingly popular class of game, the arcade adventure

Before the game begins you are given the option of controlling Maroc via a joystick, the default keys, or selecting your own. Your next decision is whether or not you wish to load a previously saved game This is a common option on adventure games but it is the first time I have encountered it on an arcade/adventure package.

The opening scene depicts Maroc sitting cross-legged in a woodland clearing By pressing the fire button a scroll appears at the bottom of the screen The scroll displays the particular spells that are at your disposal One of these gives you the power of movement, having selected this spell Maroc's astral projection leaves his body and can be moved around the screen

On his travels Maroc will encounter numerous malevolent characters Some of these may provide Maroc with new spells, should he be willing to trade specific items for them In all there are 19 such spells, and you're going to need them all at some time or other

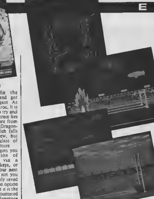
As a game Dragontorc is very playable, but it still suffers from that age old problem of Sinclair Spectrum conversions The graphics are clever but basic

J R

Price: £7.95

Publisher: Hewson Consultants

Address: Hewson Hse, 56B Milton Trading Est, Milton, Abingdon, Oxon OX14 4RX



Summer Games II

When it appeared, Summer Games took the software market by storm. there was no sports simulation to match it. Rather than simply being a follow-up, Summer Games II is even more impressive The format of the two programs are similar, part two is simply slicker and more enjoyable.

Eight events are offered — triple jump, rowing, javelin, equestrian, high jump, fencing, cycling and kayaking Unlike other packages I've seen, most of the games do not require constant wrist breaking thrashing of your joystick Having said that, the control of some of the events takes some getting used to Fortunately, a practice mode is available allowing you to get the knack of each even Two joysticks can be used and up to eight players can take part

Each event is portrayed in excellent multicolour mode with very smooth scrolling as required The equestrian event is particularly tasty with differential scrolling of the background to give a feeling of depth and parallex The standard of animation is superb with full attention to detail The use of sound is both effective and entertaining Each event has the sounds of running feet, trashing water or whatever effect is required Between events there are a wide range of themes including the national anthem of the winner.

As before, the games have both opening and closing ceremonies The opening is essentially unchanged but the closing ceremony is highly spectacular with very juicy visual effects. The strength of this game lies in its accuracy, addictive quality and pure attention to detail An excellent touch is that if you possess part one of Summer Games, there is an option to combine the two so that you can compete in 16 events — nice one!

My advice is simple, forget the rest, buy this package — you won't regret it

M.W.

Price: £9 95
(disc £14.95)

Publisher: U S Gold

Address: Unit 10, The Parkway Ind Est, Henesge St, Birmingham

BLUE RIBBON
3D MUNCHY/ HANGMAN
BBC MODEL B

3D Munchy/Hangman

While I waited for the game to load, I read the instructions

Move Munchy around munching the pills and scoring points until the maze is empty or your time runs out You must avoid four monsters who will destroy you Arrrgh'! This cannot possibly be, just cannot be, just when I thought I would never see another rip off of Pacman!

Well, actually, "3D Munchy" is not a straight copy of the arcade classic As you might have guessed from the usual plan view Also, the monsters are rather more devious than their arcade counterparts They have evolved to dig holes at frequent intervals Obviously, you cannot go over these and this makes it much more difficult to munch up all the pills in order to clear a screen

Luckily, Munchy himself is a little smarter than the yellow Pizza man since he has learned to use a shovel! Unfortunately a shovel cannot be used more than once and you start off with just three shovels, the number increasing with each screen cleared To make retaliation slightly easier, there are four power pills as in the original

There is also a version of Hangman on this cassette. The instructions on the inlay card explains that normal rules apply and the game itself is well written and has good graphics

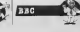
The games are good fun but not exceptional However, two reasonably good games for the price of a quarter of a game can't be bad!

S.S

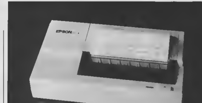
Price: £2 50

Publisher: Blue Ribbon Software

Address: Silver Hse, Silver St, Doncaster, S Yorks



PERIPHERAL



Jon Revis reviews two comparable printers — Epson's P40 and Micro-Peripheral's CPP-40. Which will best suit your purpose?

A printer is normally the first hardware addition that most users make to their system We are fortunate today that there is such a large range of printers to choose from However this large range of printers comes in a large range of prices, with the majority of printers falling within the £200 to £500 price bracket This week however we will be taking a look at a pair of printers which retail at below £100 Does low price inevitably result in low quality, to find out read on

Rather suprisingly the first offering in the "below £100" bracket comes from the Epson stable The Epson P40 is a stylish 21 x 13 x 4 cm cream box which would easily fit into a businessman's briefcase along with his Epson portable computer. This idea of portability is maintained by the inclusion of an in-built power supply The Epson has its own rechargable batteries which provide sufficient power for up to six hours printing, a mains adapter/charger is also included

The P40 is a thermal type of printer, these construct their characters in dot matrix fashion but without the use of the conventional inked ribbon The print head produces a spark which prints a dot on the heat sensitive paper One thing that you must bear in mind with this type of printer is that you must be able to find a stockist for the paper And you must also be prepared to pay that much extra due to its heat sensitive qualities I suppose that a small plus point is the fact that you will never have to purchase a printer ribbon The paper is purchased as a continuous roll which fits snuggly inside the machine. This should prevent it from making a bid for escape down the aisle of the Leeds to London 125 whilst you are in the middle of printing the company's sales figures The paper is a mere 11 cm wide but can still comfortably hold 80 characters when the text is printed in condensed mode

Finally we get down to the nitty gritty, can this small cream box produce printed text of sufficient quality to bear the Epson name In a word, the answer must be, yes I was very impressed by the quality of the printout The printer worked with a variety of the different control codes giving normal, double-width, condensed, and emphasised printouts Even when all text was output in condensed mode it was still very legible

The Epson P40 printer is compact, stylish, and produces a very high standard of printout At a price tag of just under £100 the P40 is a bargain

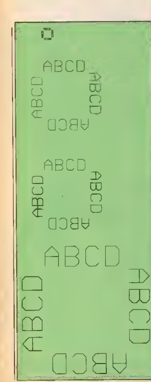
The second of the two budget printers that I took a look at was the Micro Peripherals CPP-40 colour printer/plotter. This too is a portable printer which contains its own internal rechargable batteries and comes complete with an AC mains adapter. The CPP-40 is supplied in centronics format only, but this shouldn't worry too many users as most of today's computers are fitted with a Centronics interface as standard.

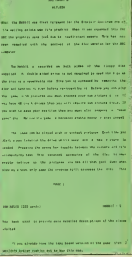
The method of printing used by the CPP-40 is quite novel, it uses a series of four small pens, each of a different colour, which fit into a rotating barrel This barrel is used as the print head which moves from left to right over the paper The paper is supplied as an 11 5 cm wide continuous roll which sits on top of the printer

The printer will print text in either 40 or 80 columns across the paper The user selects the required mode via a series of DIP switches which are located on the base of the machine In both cases the letters are actually drawn on the paper using continuous lines, unlike a dot matrix printer which uses patterns of dots Lower case p's and q's are drawn with true descenders in either 40 or 80 column mode All of the characters are well defined though users with below average eyesight may have difficulty in reading the 80 column printout

The CPP-40 has two modes of operation, these are Text and Graphic, both of which are software selectable The text mode is the default mode and is the one which would be used for producing listings and when the printer is used in conjunction with a wordprocessor. When in this mode any change of pen colour must be performed via the controls on the front of the printer before printing begins

The graphic mode of operation is selected when the user wishes to make use of the plotter feature of the CPP-40 To use the graphic mode your computer's version of BASIC must possess the LPRINT state-





The Hobbit (Disk Version)
Melbourne House Software
BBC Model B
£17.95

When the Hobbit was first released for the Sinclair Spectrum one of it's selling points was it's graphics. When it was squeezed into the BBC the graphics were lost due to insufficient memory. This has now been remedied with the arrival of the disc version for the BBC computer.

The Hobbit is recorded on both sides of the floppy disc supplied. A double sided drive is not required to read the 2 as as the disc is a reversible one. Side two is accessed by removing the disc and turning it over before re-inserting it. Before you can play the game with pictures you must prepare your own picture disc. If you have 40 track drives then you will require two picture discs. If you wish to save your position then you must also prepare a "save game" disc. By now the game is becoming pretty heavy on disc usage.

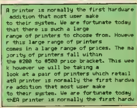
The game can be played with or without pictures. Each time you visit a new location the drive whirrs away and a new picture is loaded. Pressing the space bar toggles between the picture and it's accompanying text. This constant accessing of the disc becomes pretty tedious as the pictures are not all that good. Even when playing a text only game the program still accesses the disc. This

PAGE 1

HCW REVIEW (232 words) HOBBIT - 2

has been used to provide more detailed descriptions of the places visited.

If you already have the tape based version of the game then I wouldn't bother rushing out to buy this one.



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A printer is normally the first hardware
 addition that most user make
to their system. We are fortunate today
that there is such a large
range of printers to choose from. Howeve
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comes in a large range of prices. The ma
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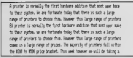

A printer is normally the first hardware addition that most user hace to their system. We are fortunate today that there is such a large range of printers to choose from. However this large range of printers Ed printer is normally the first hardware addition that most user make to their system. we are fortunate today that there is such a large range of printers to choose from. However this large range of printers comes in a large range of prices. The majority of printers fall within the £200 to £500 price bracket. This week however we will be taking a

ment or some equivalent, PRINT # 8 works on the Amstrad CPC464. The excellent instruction book illustrates how the plotter can be used to draw geometric shapes, print text of any size in any of four rotations and change the pen colour at will.

The quality of the printout is not quite as professional as that of the Epson P40 but the plotter facility more than compensates for this minor failing. **J.B.**

Epson P40

Price: £99

Manufacturer: Epson UK

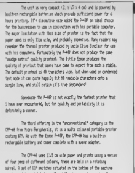
Address: Dorland Hse, 388 High Road, Wembley, Middx

Micro Peripherals CPP-40

Price: £79

Manufacturer: Micro Peripherals

Address: Intec Unit 3, Hassocks Wd, Wade Rd, Basingstoke, Hants RG24 0NE


The unit is very compact (21 x 13 x 4 cm) and is powered by built-in rechargable batteries which provide sufficient power for 6 hours printing. It's diminutive size makes the P-40P an ideal choice for the businessman to use in conjunction with his portable computer. The major limitation with this size of printer is the fact that the paper used is only 11cm wide, and probably expensive. Many readers may remember the thermal printer produced by uncle Clive Sinclair for use with his computers. Fortunately the P-40P does not produce the same "smudge matrix" quality printout. The little Epson produces the quality of printout that users have come to expect from such a stable. The default printout is 40 characters wide, but when used in condensed text mode it can quite happily fit 80 readable characters onto a single line, and still retain it's true descenders!

Speedwise the P-40P is not exactly the fastest printer that I have ever encountered, but for quality and portability it is definately a winner.

The third offering in the "unconventional" category is the CPP-40 from Micro Peripherals, it is a multi coloured portable printer costing £79. As with the Epson P-40P, the CPP-40 has a built-in rechargable battery and comes complete with a mains adapter.

The CPP-40 uses 11.5 cm wide paper and prints using a series of four pens of different colours, these are held in a rotating barrel. A set of DIP switches situated on the bottom of the machine can be used to switch between 40 and 80 column printing modes. The quality of the printout is very impressive, even in 80 column mode the characters are well defined, though users with below average eyesight may have difficulty reading the text.

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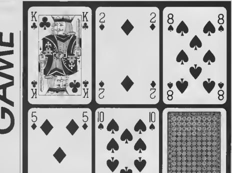
C64 GAME

GUESSING GAME



Pit your powers of guesswork against your C64 in this game by Michael Diskett

Try developing your powers of ESP in this card guessing game where the computer holds all the cards. The game is a version of the TV show "Play Your Cards Right" minus compere Bruce Forsyth and studio audience shouting "higher" or "lower". You will have to invite the rest of the family in to provide crowd effects.

The idea of the game is to successfully predict whether the next card will be higher or lower than the previous one. If you are correct then a note will be played and you will again be required to predict the next card. This will be repeated until the five cards on the screen have all been turned over then the last card is taken and placed at the start of the next five cards, which will have been dealt from the re-shuffled pack.

If you fail to predict the next card, the computer will respond with a cry of doom and display the "GAME OVER" message on the screen. If you have managed to get one of the highest scores, you will be allowed the privilege of typing in your name, to be recorded on the high score table.

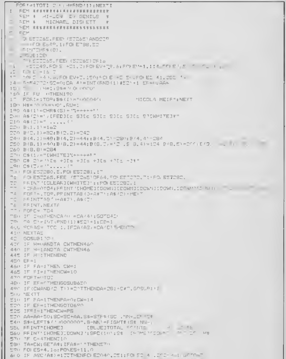
How it works

60-80	blank screen, set keyboard buffer to 1 character and disable stop key
100	set extended background colour mode
110-130	set up sprite position
140-290	set variables
300 360	print back of five cards
370	start of main loop
380-410	pick value for next card
420-460	check if player predicted correctly
470-520	display next card
520-560	update score and print it
570-640	get players prediction
650	end of main loop
660-680	play note
690-780	tell player mistake made
790 1000	high score table
1100 1160	give card value
1170 1270	put pips on card
1290 1350	data for machine code
1360 1560	data for characters
1570-1730	data for sprites

The keys used are the function keys marked F1 and F7. F1 is used to predict higher, and F7 to predict lower. Included in the program is a routine to trap any errors in the data. The error messages are self explanatory and usually say something such as "DATA ERROR FOR CHARACTERS". As the program contains some machine code, you should save the program before running it for the first time.

Variables

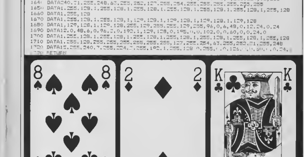
V	start address of video interface chip
s	start address of sound chip
b$()	top 9 scores and names
b(x,y)	positions for pips on cards
c$()	strings of characters for back of card
a$()	strings of characters for front of card
ca()	contains card number for all five cards
pa	set to 1 if card is an ace
d	character poke code
c1	colour for character (red or black)
cw	token value for card
c	number of card being guessed
sc	your current score
s$	score put in string format
er	set to 1 if you guess wrongly
b	set to 1 if you guess higher

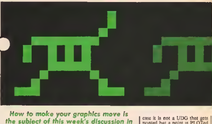


```
 FORI=1TOTI 2 : H=RND(1):NEXTI
10 REM ***********************
20 REM *  HI-LOW BY GENIUS   *
30 REM *   MICHAEL DISLETT    *
40 REM ***********************
50 REM
60 POKE53265,PEEK(53265)AND239
70 POKE649,1:POKE788,52
80 PRINTCHR$(8).
90 GOSUB1200
100 POKE53265,PEEK(53265)OR16
110 V=53248:POKEV+21,3:POKEV+39,6:POKEV+41,14:POKE
120 POKEV+16,3
130 POKE +4 ,8:POKEV+3,150:POKE +2 5 :POKE 41,200
140 S=54272:SC=0:CA(4)=INT(RND(1)*52)+1:EF=0:AA=
150 T    H=1:S$="0000000"
160 IF FU=1THEN190
170 FORI=1TOP:B$(I)="000400            NICOLA MEIR":NEXT
180 H$="0000000":FU=1
190 A$(1)=CHR$(5)+"%+++++*"
200 A$(2)="/[RED][c S][c S][c S][c S][c S][WHITE]*"
210 A$(3)=" .....("
220 B(1,1)=162
230 B(2,1)=82:B(2,2)=242
240 B(4,1)=40:B(4,2)=44::B(4,3)=280:B(4,4)=284
250 B(8,1)=40:B(8,2)=44:B(8,3)=1  ,B 8,4)=124 B(8,5)=200:B(8,
260 B(8,8)=284
270 C$(1)="[WHITE]%+++++*"
280 C$(2)="\[s +][s +][s +][s +][s +]%"
290 C$(3)=".....("
300 POKE53280,5:POKE53281,1
310 POKE53265,PEEK(53265)OR64:POKE53272,  :POKE53282,
320 PRINT"[CLEAR][WHITE]";:POKE53282,1
330 FORA=0TO4:PRINT"[HOME][DOWN][DOWN][DOWN][DOWN][DOWN
340 FORI=1TOP:PRINTTAB(3+A*7);A$(2):NEXT
350 PRINTTAB(3+A*7);A$(3)
360 PRINT:NEXTA
370 FORC=1TO4
380 IF C=0THENCA(0)=CA(4):GOTO420
390 CA(C)=INT(RND(1)*52)+1:CD=1
400 FORAS=1TOC-1:IFCA(AS)=CA(C)THEN
410 NEXTAS
420 GOSUB1000
430 IF H=0ANDTA CWTHEN460
440 IF H=1ANDTA CWTHEN46
445 IF H :THENEND
450 EF=1
460 IF FA=1THEN CW=1
465 IF FI=1THENCW=10
470 FORT=0TO3
480 IF EF=0THENGOSUB650
490 IF(CWAND(2^T))=2^TTHENDA=281+C*7:GOSUB1
500 NEXTT
510 IF FA=1THENPA=0:CW=14
520 IF EF=1THENGOTO690
525 IFFI=1THENCW=PS
530 AA=AA+50:SC=SC+AA:S$=STR$(SC):NN=LEN(S$
540 S$=LEFT$("0000000",8-NN)+RIGHT$(S$,NN-
550 PRINT"[HOME]          [BLUE]TOTAL POINTS
560 PRINT"[HOME][DOWN]";SPC(10);S$ "[HOME][DOWN]          H$
570 IF C=4THEN310
580 TA=CW:GETA$:IFA$=""THEN570
590 POKES+4,16:POKES+11,0
600 IF ASC(A$)=133THENPOKE2040,251:POKE
610 IF ASC(A$)=136THENPOKE2040,250:POKE
620 GOTO570
630 REM END OF MAIN LOOP
640 NEXTC
```

```
65  REM CORRECT
660 POKES+5,0:POKES+6,12:POKES+24,15
670 POKES,2:POKES+1,10+15*C:POKES+4,33
680 RETURN
690 REM BAD LUCK     MADE A MISTAKE
700 S=54272:FORK=STOS+1 :POKEK,0:NEXT
710 POKES+5,1:POKES+6,160
720 POKES,119:POKES+1,7:POKES+4,33
730 FORH=1TO150:NEXT:POKES+4,64:FOR H=0TO800:NEXTH
740 POKES,152:POKES+1,5:POKES+4,33
750 FORH=0TO400:NEXT:POKES+4,64
760 PRINT"[HOME]";:FORT=0TO17:PRINT"[DOWN]";:NEXT:PRINTTAB(15):"[BLUE]BAD LUCK"
770 PRINTTAB(7):"[DOWN][RVSON][RED]PLEASE PRESS THE SPACE BAR"
780 GETA$:IFA$=""THEN780
790 REM HI SCORE TABLE
800 POKE53272,21:PRINT"[CLEAR]":POKE53280,0:POKE53281,0
810 POKEV+21,0
820 POKE53265,PEEK(53265)AND191
830 K=0:FORI=1TO9:IFSC>VAL(LEFT$(B$(I),7))THENK=I:I=9
840 NEXTI
850 IF K=1THENH$=S$
860 IF K=0THEN950
870 PRINTTAB(15):"[CYAN]WELL DONE!"
880 PRINT"[DOWN][WHITE]YOU ARE INCLUDED IN THE TOP 9 SCORES"
890 IFJ=0THENFORC=1TO5STEP.25:GOSUB650:NEXTC:J=1
900 INPUT"WHAT IS YOUR NAME";I$
910 IF LEN(I$)>14THENI$=LEFT$(I$,14)
920 FORI=9TOKSTEP-1:B$(I+1)=B$(I):NEXT
930 B$(K)=S$+"          "+I$
940 PRINT"[CLEAR]"
950 PRINTTAB(12):"[YELLOW]HALL OF FAME"
960 PRINTTAB(12):"[WHITE][C Y][C Y][C Y][C Y][C Y][C Y][C Y][C Y][C Y][C Y]"
970 FORI=1TO9:PRINTTAB(1);"[DOWN] [RVSON]";I;"[LEFT] [RVSOFF] ";B$(I):NEXTI
980 PRINTTAB(7),"[DOWN][DOWN]PRESS SPACE FOR NEXT GAME"
990 GETA$:IFA$=""THEN990
1000 GOTO110
1010 REM  GIVE CARD A VALUE AND DISPLAY CODE
1020 PI=0:IFCA(C)<14THENCC=164:C1=0:TS=0:GOTO1060
1030 IFCA(C)<27THENCC=98:C1=2:TS=13:GOTO1060
1040 IFCA(C)<40THENCC=99:C1=2:TS=26:GOTO1060
1050 IFCA(C)<53THENCC=161:C1=0:TS=39:GOTO1060
1060 POKE54276,64:CW=CA(C)-TS:BH=0
1070 IF CW=1THEND=65:CW=14:PA=1:GOTO1140
1080 IF CW>1ANDCW<10THEND=112+CW
1081 IF CW>9 AND CW<14THENPI=1:PS=CW
1090 IF CW=10THEND=111:GOTO1140
1100 IF CW=11THEND=74:GOTO1140
1110 IF CW=12THEND=81:GOTO1140
1120 IF CW=13THEND=75:GOTO1140
1130 REM ******************************
1140 REM THIS GAME WAS WRITTEN BY MICK
1150 REM ******************************
1160 RETURN
1170 REM DISPLAY FRONT OF CARD AND SET SPRS ON
1180 IF BH=1THEN1220
1190 PRINT"[HOME][DOWN][DOWN][DOWN][DOWN][DOWN][DOWN]";TAB(4+C*7);C$(1):BH=1
1200 FORI=2TO9:PRINTTAB(4+C*7);C$(I):NEXT
1210 PRINTTAB(4+C*7),C$(7):GOTO1220
1220 POKE2024-DA,D:POKE56296+DA,C1
1230 POKE1748+DA,D:POKE55620+DA,C1
1240 S=I:PO=1024+DA:P2=55296+DA:FORG=1TO8
1250 POKEPO+B(G),CC:POKEP2+B(G),C1
1260 NEXTG
1270 RETURN
1280 REM       DEF CHAR
1290 FORT=49152TO49178:READA:POKET,A:C=C+A:NEXT
1300 IF C<>A THENPRINT"ERROR IN DATA FOR MACHINE CODE":END
```

```
1310 DATA162,0,189,8,208,157,8,56,232,224,255,208,245
1320 DATA162,0,189,128,209,157,128,57,232,224,80,208,245,96
1330 POKE56334,PEEK(56334)AND254:POKE1,PEEK(1)AND251
1340 SYS49152
1350 POKE1,PEEK(1)OR4:POKE56334,PEEK(56334)OR1
1360 FORB=0TO7:READA:POKE14336+30*8+B,A:G=G+A:NEXTB
1370 FORT=33TO47:FORB=0TO7:READA:POKE14336+T*8+B,A:G=G+A:NEXTB,T
1380 IF G  16999THENPRINT"DATA ERROR FOR CHARACTERS":END
1390 DATA54,127,127,127,62,28,8,0
1400 POKE14336+32*8+7,0
1410 FORT=0TO7:A(T)=PEEK(14336+46*8+T):NEXT
1420 DATA8,28,62,127,127,28,62,0
1430 DATA54,127,127,127,62,28,8,0
1440 DATA8,28,62,127,62,28,8,0
1450 DATA24,60,24,255,255,90,24,60
1460 DATA0,0,0,3,7,15,31,31
1470 DATA0,0,0,192,224,240,248,248
1480 DATA31,31,15,7,7,0,0,0
1490 DATA248,248,240,224,192,0,0,0
1500 DATA31,31,31,31,31,31,31,31
1510 DATA248,248,248,248,248,248,248,248
1520 DATA0,0,0,255,255,255,255,255
1530 DATA255,255,255,255,255,0,0,0
1540 DATA204,204,51,51,204,204,51,51
1550 DATA204,204,51,51,204,204,51,51
1560 DATA142,145,145,145,145,145,142,
1570 FORT=250TO252:FORB=0TO62:READA:POKET*64+B,A:G=G+A:NEXTB:NEXTT
1580 IF G  43877THENPRINT"DATA ERROR FOR SPRITES :END
1590 DATA0,24,0,0,60,0,0,102,0,0,195,0,1,129,128,3,0,192,6,0,96,12,0,48
1600 DATA24,0,24,48,0,12,96,0,6,255,129,255,255,129,255,1,129,128,1,129,128
1610 DATA1,129,128,1,129,128,1,129,128,1,129,128,1,255,128,1,255,128
1620 REM
1630 DATA0,24,0,0,60,0,0,126,0,0,255,0,1,255,128,3,255,192,7,255,224,15,255
1640 DATA240,31,255,248,63,255,252,127,255,254,255,255,255,255,255,255
1650 DATA1,255,128,1,255,128,1,255,128,1,255,128,1,255,128,1,255,128,1,255,128
1660 DATA1,255,128
1670 DATA1,255,128,1,255,128,1,129,128,1,129,128,1,129,128,1,129,128
1680 DATA1,129,128,1,129,128,255,129,255,255,129,255,96,0,6,48,0,12,24,0,24
1690 DATA12,0,48,6,0,96,3,0,192,1,129,128,0,195,0,0,102,0,0,60,0,0,24,0
1700 DATA1,255,128,1,255,128,1,255,128,1,255,128,1,255,128,1,255,128,1,255,128
1710 DATA1,255,128,255,255,255,255,255,255,127,255,254,63,255,252,31,255,248
1720 DATA15,255,240,7,255,224,3,255,192,1,255,128,0,255,0,0,126,0,0,60,0,0,24,
1730 RETURN
```





IT'S A GAME

How to make your graphics move is the subject of this week's discussion in our Amstrad programming series by Dovid Ellis

There are various ways in which movement can be simulated on the VOU The easiest way is to use different graphics characters at the same location on the screen and switch between them — in the same way that a cartoon movie is built up

The listing **STATIC DISPLAY** demonstrates this in its simplest form Three pairs of graphics characters are used and these are printed alternately at the same location The effect is one of movement Naturally, you could use larger areas of the screen to display larger characters These may be built up from several user defined graphic (UDG's) characters to produce a reasonable display of movement

The listing **UDG MOVEMENT** shows a simple example This is still static movement though Although the character is moving it stays at the same location on the screen.

To move an object around the screen you first have to print it, then delete it, and then print it at the next position on the screen The listing **ARROW MOVEMENT** shows this technique using four graphics characters relating to the four cursor key arrow symbols

When the program is run, the arrow will appear to move around the screen — albeit somewhat jerkily. This program shows the use of the WHILE/WEND structure Note how the nesting takes place I could have used FOR/NEXT loops instead but opted for WHILE/WEND as it is more fashionable these days!

The program **CURSOR MOVEMENT** moves an arrow around the screen in a similar manner, but this time the movement is controlled by you When you RUN the program, press any of the four cursor keys and the arrow will be printed for that key The arrow will move if you hold the key down Hold down two adjacent keys and the movement will be at 45 degrees Not very exciting I agree, but this routine is the key to the most fundamental part of any game.

Most games require you to move some object around the screen With Knight Lore it is the 'adventurer' that you move With Sorcery it is the Sorcerer that you control With Fighter Pilot it is the scenery that changes in response to the cursor keys or joystick. Naturally, these are all programmed in machine code — but the principal remains the same

The problem with UDG's is that they tend to produce rather jerky movement as each time the character is moved it has to jump by one whole screen printing position. In Mode 2 this is a jump of 8 pixels In Mode 1 it is a jump of 16 pixels, and in Mode 0 a whopping 32 pixels No wonder it's jerky!

One way to overcome this is to use TAG This will "tag" the normal print cursor onto the graphics cursor Movement can now be made in steps of one pixal, producing smoother but slower movement

The listing **STAG COLLISION** is a 'mini' game that uses this technique. However, in this case it is not a UDG that gets printed but a point is PLOTed instead, The object of the game is simple

The subroutine at line 2000 plots 500 random points in three different colours. Your quest is to visit as many of the stars as possible but you must avoid running into your own trail left in the sky, and you must also avoid colliding with any RED stars By the way, if you are using a green screen monitor you will have trouble seeing the RED stars and also your own trail, so change INK 1 in line 20 to a brighter colour. Try WHITE (13) and you should then be able to differentiate between the three star types You get 10 points for visiting a BRIGHT CYAN star, and 50 points for the flashing YELLOW/BLUE stars

Your speed is fixed — pressing any of the four cursor keys changes your direction accordingly You can go off the limits of the screen if you wish, but there is little point (excuse the pun!) Your score is printed in the top left hand corner of the screen — avoid this also — in fact, if it's RED, avoid it like the plague!

The three lines that do the main work are at 1010, 1020 and 1050 These use the graphics TEST to test what PEN the pixel is, at the next location — ie the location that you will be moving to If this is PEN 2 (line 1010) then you score 10 points and get a reassuring beep If it is PEN 3 (line 1020) then you score 50 points and get a beep If it is PEN 1 however, then you crash this produces an explosion sound (line 1060).

And don't write in to complain to the Ed that it is not up to the standard of Knight Lore, Alien 8, Sorcery etc. What do

you expect for a mere 21 lines of BASIC!! The program is brief and without frills — crude even. But it does form the basis of a useable game which could be extended and modified to make it much more interesting and usable. I shall be returning to this game in a later article, after looking at interrupts and sound, to see how these could be used to liven up the program

```
10 MODE 0
20 WHILE -1
30 GOSUB 80:LOCATE 5,5
40 PRINT CHR$(224)+CHR$(248)+CHR$(250)
50 GOSUB 80:LOCATE 5,5
60 PRINT CHR$(225)+CHR$(249)+CHR$(251)
70 WEND
80 FOR delay=1 TO 300:NEXT:RETURN
```

STATIC DISPLAY.

```
100 MODE 1
110 WHILE -1 : x=1 : y=1
120 '------------------------------
130     :WHILE x<39
140     :LOCATE x,y:PRINT " "+CHR$(243)
150     :x=x+1:GOSUB 1000:WEND
160 '------------------------------
170     :WHILE y<25
180     :LOCATE x,y:PRINT CHR$(241);
190     :GOSUB 1000:LOCATE x,y:PRINT " ";
200     :y=y+1:WEND
210 '------------------------------
220     :WHILE x>0
230     :LOCATE x,y:PRINT CHR$(242)+" ";
240     :GOSUB 1000:x=x-1:WEND
250     :LOCATE 1,25:PRINT " ":x=1
260 '------------------------------
270     :WHILE y>0
280     :LOCATE x,y:PRINT CHR$(240);
290     :GOSUB 1000:LOCATE x,y:PRINT" "
300     :y=y-1:WEND
310 '------------------------------
320 WEND
1000 FOR delay=1 TO 50:NEXT:RETURN
```

ARROW MOVEMENT

```
10 SYMBOL AFTER 240
20 SYMBOL 240,0,3,6,2,1,7,11,11
30 SYMBOL 241,11,11,2,2,2,2,2,14
40 SYMBOL 242,0,192,96,64,128,224,208,208
50 SYMBOL 243,208,208,64,64,64,64,64,112
60 SYMBOL 244,3,6,2,1,127,3,3,3
70 SYMBOL 245,3,2,4,8,16,96,0,0
80 SYMBOL 246,192,96,64,128,254,192,192,192
90 SYMBOL 247,192,84,32,16,8,6,0,0
100 '--------------------------------------
110 MODE 1:CALL &BC02
120 WHILE -1
130 LOCATE 19,10:PRINT CHR$(240)+CHR$(242)
140 LOCATE 19,11:PRINT CHR$(241)+CHR$(243)
150 GOSUB 200
160 LOCATE 19,10:PRINT CHR$(244)+CHR$(246)
170 LOCATE 19,11:PRINT CHR$(245)+CHR$(247)
180 GOSUB 200
190 WEND
200 FOR delay=1 TO 300:NEXT:RETURN
```

UDG MOVEMENT.

```
10 MODE 1:x=1:y=1:lastx=1:lasty=1
20 WHILE -1
30 IF INKEY(1) <> -1 THEN char=243:GOSUB 1000
40 IF INKEY(2) <> -1 THEN char=241:GOSUB 2000
50 IF INKEY(8) <> -1 THEN char=242:GOSUB 3000
60 IF INKEY(0) <> -1 THEN cher=240:GOSUB 4000
70 WEND
1000 REM ********** move acrose ***********
1010 x=x+1:IF x>40 THEN x=40
1020 GOSUB 5000:RETURN
2000 REM ********** move down *************
2010 y=y+1:IF y>24 THEN y=24
2020 GOSUB 5000:RETURN
3000 REM ********** move back *************
3010 x=x-1:IF x<1 THEN x=1
3020 GOSUB 5000:RETURN
4000 REM ********** move up ***************
4010 y=y-1:IF y<1 THEN y=1
4020 GOSUB 5000:RETURN
5000 REM ********** clear arrow **********
5010 LOCATE lastx,lasty:PRINT " "
5020 LOCATE x,y:PRINT CHR$(char)
5030 lastx=x:lasty=y:RETURN
```

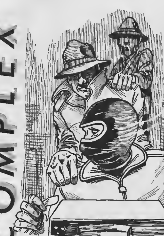
CURSOR MOVEMENT.

```
10 MODE 1:x=200:y=200:score=0:across=2:down=0
20 INK 0,0:INK 1,6:INK 2,20:INK 3,1,24
30 ENV 1,15,-1,10:BORDER 0:GOSUB 2000
40 WHILE -1
50 IF INKEY(1) <> -1 THEN across=2:down=0
60 IF INKEY(2) <> -1 THEN across=0:down=-2
70 IF INKEY(8) <> -1 THEN across=-2:down=0
80 IF INKEY(0) <> -1 THEN across=0:down=2
90 GOSUB 1000:WEND
1000 REM ********** move pixels **********************
1010 IF TEST(x,y)=2 THEN score=score+10:PRINT CHR$(7)
1020 IF TEST(x,y)=3 THEN score=score+50:PRINT CHR$(7)
1030 LOCATE 1,1:PRINT SCORE:PLOT x,y,1
1040 x=x+across:y=y+down
1050 IF TEST(x,y)<>1 THEN RETURN
1060 TAG:PRINT CHR$(238);:SOUND 2,0,150,0,1,0,15:END
2000 REM ********* plot random points ***************
2010 FOR num=1 TO 500
2020 a=RND(1)*640:b=RND(1)*400:col=RND(1)*3
2030 PLOT a,b,col:NEXT
2040 PRINT CHR$(7):RETURN
```

STAR COLLISION.

GET SET
THE RACE BEGINS ON COMMODORE 64, AMSTRAD AND SPECTRUM ON OCTOBER 8TH.

RON COMPLEX



Ron Complex gets his fingers burnt by o hot tip in this weeks instolment of the serial with the built-in time warp

Ron Complex bit into the first cashew of his emergency supply He'd been standing in a doorway opposite the Amalgamated Consolidated Building for three hours It was 1am and the wind blew empty crisp packets down the deserted street like cellophane tumbleweed

Ron's tip-off was late Rex Retina had told him tonight was the night, and the offices of Amalgamated Consolidated were the first target in the Random Code word Generator hook up operation

Ron thought about going home, "I've still got 20 years worth of old newspapers to catch up on I wish I'd cancelled that subscription before the big freeze" Ron was busy picturing his house crammed solid with yesterdays news when he heard a car approaching

The car stopped outside the AC building and a second later accelerated off into the night

Left on the pavement was a tall thin figure dressed entirely in black garb save for a pair of green day-glo socks The figure knelt down and took a black balaclava from a small kitbag and pulled it over his head

After a few moments he took off the kit bag and put on the balaclava "Something tells me this guy is from the Erratic Club," thdught Ron

The black figure took four ucker pads from the bag, put two on his shoes and attached the others to the palms of his hands

"It looks like human fly time," assessed Ron Within a few moments the day-glo socks were all that could be seen as the figure crawled up the outside of the building Ron moved across the street He spat on his hands and rubbed them together "Why couldn't he use the drainpipe like everyone else?" thought Ron

As Ron began to scale the drainpipe a black car pulled up on the street corner On the roof of the building Ron saw an open skylight and jumped down into a darkened corridor He heard the sound of far off manic chuckling and headed for it

Back in the Murkotronic building, Murko was bent over his computer terminal frantically wiggling his joystick He'd been trying for five minutes to manoevre his remote controlled surveillance pod through the skylight of the roof of the AC building

The sensors on the hovering pod were picking up approaching persons on the roof "Time to get out of there," said Murko He heaved the joystick to the right The monitor showed a chimney rapidly filling the screen

Murko pulled back on the joystick but it was too late and the screen went black Murko wrenched the joystick out of its socket and picked up the phone "Zibowitz Break out another pod and make it pronto"

Ron could hear the mad giggling growing louder as he walked down the corridor He pushed open an office door about an inch and saw the silhouette of the human fly crouched over a glowing terminal screen Ron crept across the room and stood behind the trespassing chortler "I always enjoy this bit," thought Ron as he put his hand on the man's shoulder The chuckling stopped

"Okay kid I'm pulling the plug on you," said Ron Ron felt a hand come down on his own shoulder "Inspector Pythagoras — Logic Squad," said a voice "You're both under arrest Don't do anything irrational, it could be held in evidence against you

Next week: *The Rational Slammers*

BBC B PROGRAM

LASER REVENGE

Not only do you have to be a D-I-Y enthusiast to succeed in this game but you've also got to be pretty handy with a laser gun

You are trapped in a room with a couple of meanies. The only way to escape is to paint at least 50% of the floor and blast the meanies out of your way. You'll then find yourself in progressively more difficult rooms — wreaking revenge as you go!

Notes

This program is in two parts to save memory Part 1 defines graphics and ENVELOPES to be used and instructions Part 2 is the game itself to be SAVED as "REVENGE" to be CHAINed from program 1

This program was written on a disc based machine and automatically downloads If, however, you do not have a disc-drive make the following alterations —

Program 1

```
DELETE 430
Alter 420 to 420VDU30,11,31,
   7,0,129,157,135 PRINT,
   SPC(21),CHR$156 VDU28,
   10,0,30,0,12
```

Program 2

```
DELETE 10 Warning: Do Not
           Renumber
```

Some machine code is used in Program 2, make sure you save it before running because if you make a mistake it's quite possible that you will lose the whole program

The enlarging routine in program 1 could be adapted for your own programs as could the machine code in program 2 which simulates the SCREEN£ command

Revenge is sweet in this BBC B game from Huw James

Variables

E	to find end of data
A%	sound loop
W$	contains message to be scrolled
T%	used inscroll
Z%	delay loop
X1%,Y1%	position of enlarged character
C%	CHR$ number of character to be enlarged
D%,COL%	colour of enlarged character
D	space for enlarged character to be stored
HI%	high score
HI$	high score names
A%	used in loops
SH%	sheet number
FILL%	amount of floor filled
NUM%	amount of floor to be filled
LI%	lives
SC%	score
X%,Y%,X1%,Y1%	your position
MX%,MY%,WX%,WY%	monster positions
MAN%	CHR$ number of Bert
MON%	CHR$ number of Noogles
CODE%	machine code position
DOWN%,UP%,LEFT%, RIGHT%	determine the number of MAN%
FIRE%	if TRUE you are firing
CW%	what is to be placed to cover up the Green Jelly monster
FIREN%	is it new fire?
T%	stun time
MW%	CHR£ number of Green Jelly monster
B%,C%	positions of radioactive waste
Q%	used to find result of machine code
STUN%	if TRUE Noogle stunned
DX%,BX%,BY%	laser fire positions
FIX%	position of new entry in hall of fame

New N works

10	disable ESCAPE
20-338	set up graphics and envelopes
340-350	call up enlarge routine
340-380	scroll message
390-418	call up enlarge routine and scroll message
420	set text window & program f0
430	insert f0 into the keyboard buffer
450-460	enlarge routine
470	fill used by enlarge routine
480	used to colour enlarged figures
510	title
520-540	instructions

Notes

DIV in line 580 should be replaced by pressing shift & f0 to turn characters red The EOR should be deleted and replaced with shift & f2 for green

How it works — Procedures

PROCVAR	sets up variables
PROCSCREEN	sets up screen
PROCUM	Bert's movement
PROCFIND	uses the machine code to simulate the SCREEN£ command
PROCMM	Noogle's movement
PROCFIRE	fire routine
PROCSTUN	stun Noogle routine
PROCMOUNT	move Noogle out of door
PROCW	Green Jelly monster movement
PROCWOUT	move Green Jelly monster out of door
PROCDEAD	explosion routine
PROCNS	sets up new screen
PROCKILL	kill Green Jelly monster
PROCEND	Game Over routine
PROCASSEM	assemble machine code
PROCTUNE	plays three different tunes from data

```
  10*FX14,6
  20VDU23,128,66,60,90,219,126,60,66,36:*TV2
55
  30VDU23,129,36,66,60,126,219,90,60,66
  40VDU23,131,16,186,77,124,124,77,186,16
  50VDU23,132,146,36,73,146,36,73,146,36
  60VDU23,133,73,146,36,73,146,36,73,146
  70VDU23,134,36,73,146,36,73,146,36,73
  80VDU23,135,128,128,255,255,255,255,128,12
8
  90VDU23,136,0,0,255,255,255,255,0,0
 100VDU23,137,1,1,255,255,255,255,1,1
 110VDU23,138,255,60,60,60,60,60,60,60
 120VDU23,139,60,60,60,60,60,60,60,60
 130VDU23,140,60,60,60,60,60,60,60,255
 140VDU23,141,24,60,90,255,255,36,36,102
 150VDU23,142,0,0,24,60,90,255,255,102
 160VDU23,143,126,189,219,255,255,219,189,12
6
 170VDU23,144,153,126,24,165,165,24,126,153
 180VDU23,145,66,126,24,102,102,24,126,66
 190VDU23,146,66,36,24,66,66,24,36,66
 200VDU23,147,0,36,24,36,36,24,36,0
 210VDU23,148,0,0,24,24,24,24,0,0
 220VDU23,149,115,255,238,252,248,120,40,60
 230VDU23,150,206,255,111,63,31,30,20,60
 240VDU23,151,112,248,236,254,255,123,40,60
 250VDU23,152,14,31,55,127,255,222,20,60
 260VDU23,153,255,255,255,255,255,255,255,25
5
 270VDU23,154,0,0,0,102,102,0,0,0
 280VDU23,155,0,24,60,90,255,255,36,102
 290ENVELOPE1,2,-10,127,-10,10,20,10,127,-12
7,-10,-127,126,100
 300ENVELOPE2,1,-100,-50,127,10,10,10,127,0,
-127,-127,100,10
 310ENVELOPE3,8,1,-1,1,1,1,1,120,-4,0,-3,126
,0
 320ENVELOPE4,133,8,4,8,3,1,1,126,0,0,-10,12
6,0
 330ENVELOPE5,1,2,-2,2,10,20,10,1,0,0,-1,100
,100:MODE7:VDU23;8202;0;0;0;
 340DIMD 9:PROCE:RESTORE:E=FALSE:REPEAT:READ
X1%:IFX1%=0 E=TRUE:GOTO360
 350READY1%,C%,D%:PROCCOL(X1%-1,Y1%,D%):VDU3
1,X1%,Y1%:PROCC(C%)
 360UNTILE:PROCTITLE(19):FORA%=0TO255STEP2:S
OUND1,5,A%,1:NEXT:W$=STRING$(40,CHR$32)+"Q*Be
rt's Revenge.....from.....IW Software.....Ins
tructions Y/N.....? ":VDU31,0,9,134:REPEATT%=
0:REPEATT%=T%+1:PRINTTAB(1,9)MID$(W$,T%,39):Z
%=INKEY(7)
 370UNTILT%=LEN(W$)ORNOTZ%:UNTILNOTZ%:IFZ%<>
78PROCINST
 380CLS:RESTORE:E=FALSE:REPEAT:READX1%:IFX1%
=0 E=TRUE:GOTO400
 390READY1%,C%,D%:PROCCOL(X1%-1,Y1%,D%):VDU3
1,X1%,Y1%:PROCC(C%)
 400UNTILE:PROCTITLE(19):W$=STRING$(40,CHR$3
2)+"Q*Bert's Revenge.....from.....IW Software
.....Press any key to start  ":VDU31,0,9,134:R
EPEATT%=0:REPEATT%=T%+1:PRINTTAB(1,9)MID$(W$,
T%,39):Z%=INKEY(7):UNTILT%=LEN(W$)ORNOTZ%:UNT
ILNOTZ%
 410PRINTTAB(0,9);SPC(40);TAB(2,9);CHR$141;C
HR$127;"Please wait until the tune plays.";TA
B(2,10);CHR$141;CHR$134;"Please wait until th
e tune plays."
 420VDU28,0,0,0,0,12:*KEY0 *TAPE|M L%=PAGE-&
E00:FORX%=PAGE TO TOP STEP4:!(X%-L%)=!X%:N.:?
(TOP-L%)=255:PAGE=&E00|M OLD |M GOTO20|M
 430*FX138,0,128
 440CHAIN"REVENGE"
 450DEFPROCC(N):XX%=VPOS:YY%=POS:?D=N:X%=D:Y
%=D DIV256:A%=10:CALL&FFF1:FORI%=1TO8:P=D?I%:
FORK%=7TO0STEP-1:IFP>=2^K%THENP=P-2^K%:PROCFI
LL(I%+XX%,K%+YY%)
 460NEXT,:ENDPROC
 470DEFPROCFILL(Y%,X%):PRINTTAB(X%,Y%);CHR$2
55:ENDPROC
 480DEFPROCCOL(X%,Y%,COL%):FORA%=Y%+1TOY%+8:
VDU31,X%,A%,COL%:NEXT:ENDPROC
 490DEFPROCE:FORI=0TO8:D?I=0:NEXT:ENDPROC
 500DATA2,0,152,147,30,0,151,147,2,10,128,14
9,30,10,128,149,16,0,141,146,16,10,155,146,0
 510DEFPROCTITLE(Y%):PRINTTAB(8,Y%);CHR$145;
STRING$(22,CHR$240);TAB(8,Y%+3);CHR$145;STRIN
G$(22,CHR$240):PRINTTAB(10,Y%+1);CHR$141;CHR$
132;"Q*BERT'S REVENGE":PRINTTAB(10,Y%+2);CHR$
141;CHR$132;"Q*BERT'S REVENGE":ENDPROC
 520DEFPROCINST:CLS:FORA%=0TO22:VDU31,0,A%,1
57,174:NEXT:PROCTITLE(0):RESTORE540:FORA%=1TO
3:E=FALSE:VDU28,2,21,37,5:REPEAT:READA$:IFA$<
>"@"THENPRINTA$ELSEE=TRUE
 530UNTILE:VDU26,31,4,23,130,157,135,7:PRINT
;"Press any key to continue...";:VDU156:REPEA
TUNTILGET$<>"":VDU28,2,21,37,5:FORB%=1TO25:PR
INT:Z%=INKEY(7):NEXT:NEXT:SOUND1,-15,200,2:VD
U26:ENDPROC
 540DATAThe idea of the game is simple..All
you have to do is to cover at,least 50% of th
e floor of a room,with paint . ,However certa
in things keep,getting in your way..A Noogle
frequently dashes across,and wipes out your p
ainted trail.
 550DATABut he better look out!,as you can b
last him with your,Cosmic Ray 2000 Laser.(Unf
ortunately the laser is only,a prototype and
sometimes doesn't,work properly.),@
 560DATAIf you manage to hit him you will,st
un him for a while giving you a,chance to fin
ish painting..  ,There's also the Green Jell
y monster,who appears on later levels he trys
,his best to get in your way.
 570DATA  ,If you blast him he only goes ba
ck,to his starting postion and begins,again..
" ",I almost forgot to tell you,about the rad
ioactive waste don't,touch it or you'll be so
rry..@
 580DATAYou score 1 point for every square,o
f paint and 100 points if you hit,either the
Noogle or the Green,Jelly monster.." "CONTRO
LS." ',Z _ Left     DIVP _ Pause,X   Right
 DIV(any key restarts),* _ Up       EORQ _ So
und Off
 590DATA? _ Down     EORS _ Sound On,RETURN
_ Fire." ',GOOD LUCK !!!,"   ,(You'll need it.
),@
```

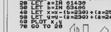
```
   1DBTOR
   20PROCASSEM:DIMHI%(5),HI$(5):FORA%=1TO5:HI
%(A%)=1000:HI$(A%)="IW Software":NEXT:REPEAT:
PROCVAR:PROCTUNE(730):MODE2:VDU23;8202;0;0;0;
:PROCSCREEN
   30REPEAT:PROCUM:IFRND(1) .5PROCMM
   40IFSH%>3ANDRND(1)>.5PROCW
   50UNTILDEAD% ORFILL%=NUM%
   60IFFILL%=NUM%:PROCNS:GOTO30
   70PROCEND:UNTILFALSE
   80DEFPROCVAR:LI%=3:SC%=0:SH%=1:X%=18:Y%=15
:X1%=X%:Y1%=Y%:MX%=1:MY%=1:WX%=4:WY%=3:FILL%
=0:DEAD%=FALSE:MAN%=152:MON%=131:CODE%=&2CCC:
DOWN%=TRUE:UP%=FALSE:LEFT%=TRUE:RIGHT%=FALSE:
FIRE%=FALSE:CN%=32:FIREN%=FALSE:STUN%=FALSE:T
%=500:MW%=141
   90NUM%=250:ENDPROC
  100DEFPROCSCREEN:VDU17,4,17,174:PRINTTAB(0,
2);STRING$(6,CHR$132+CHR$133+CHR$134);:VDU132
,133:PRINTTAB(0,31);STRING$(6,CHR$132+CHR$133
+CHR$134);:VDU132,133,17,128,30,11,17,134:FOR
A%=3TO27STEP3:FORB%=0TO19STEP17:VDU31,B%,A%,1
33,10,8,134,10
  110VDU8,132,10,8:NEXT,:VDU31,0,30,133,31,19
,30,133,17,1,17,128,31,0,15,138,10,8,139,10,8
,140,31,19,14,138,10,8,139,10,8,140,31,3,2,13
5,136,137,31,14,31,135,136,137,17,3,31,X%,Y%,
MAN%,17,5,31,MX%,MY%,MON%:IFSH%>3VDU17,2,31,W
X%,WY%,MW%
  120VDU17,2:PRINTTAB(0,0);"SCORE  LIVES  SCR
EEN":VDU17,7:PRINTTAB(0,1);SC%;TAB(9,1);LI%;T
AB(16,1);SH%:IFSH%<2ENDPROC
  130VDU17,7:FORA%=0TOSH%*3
  140B%=RND(17)+1:C%=RND(27)+3:PROCFIND(B%,C%
):IFQ%<>32THEN140
  150VDU31,B%,C%,143:NUM%=NUM%-1:NEXT:ENDPROC
  160DEFPROCUM:IFINKEY-74 ANDNOTFIRE% THENFIREN%=TRUE:SOUND2,1,0,5:GOTO240 ELSEIFINKEY-73 ANDY%>3 Y%=Y%-1:UP%=TRUE:DOWN%=FALSE:GOTO240
  170IFINKEY-105 ANDY%<30 Y%=Y%+1:UP%=FALSE:DOWN%=TRUE:GOTO240
  180IFINKEY-98 ANDX%>1 X%=X%-1:LEFT%=TRUE:RIGHT%=FALSE:GOTO240
  190IFINKEY-67 ANDX%<18 X%=X%+1:LEFT%=FALSE:RIGHT%=TRUE:GOTO240
  200IFINKEY-56TT%=TIME:REPEATUNTILGET$<>" ":TIME=TT%
  210IFINKEY-82THEN*FX210,0
  220IFINKEY-17THEN*FX210,1
  230IFNOTFIRE% ENDPROC ELSEPROCFIRE:ENDPROC
  240SOUND&11,2,101,2:IFFIREN%THENBX%=X1%:BY%=Y1%:E%=MAN%:FIRE%=TRUE:PROCFIRE ELSEIFFIRE%PROCFIRE
  250PROCFIND(X%,Y%):IFQ%=NOT32ORQ%=NOT153ORMX%=X%ANDMY%=Y%ORWX%=X%ANDWY%=Y%ANDSH%>30ORQ%=143PROCDEAD:ENDPROC
  260IFUP%ANDRIGHT%THENMAN%=149ELSEIFUP%ANDLEFT%THENMAN%=150ELSEIFDOWN%ANDRIGHT%THENMAN%=151:ELSEIFDOWN%ANDLEFT%THENMAN%=152
  270IFQ%=32SC%=SC%+1:FILL%=FILL%+1
  280VDU17,7,31,X1%,Y1%,153:PRINTTAB(0,1);SC%:VDU17,3,31,X%,Y%,MAN%:X1%=X%:Y1%=Y%:ENDPROC
  290DEFPROCFIND(XX%,YY%):VDU31,XX%,YY%:CALLCODE:Q%=?CODE%:ENDPROC
  300DEFPROCMM:IFSTUN%ANDTIME<T%THENENDPROC
  310VDU31,MX%,MY%,32,17,5:MX%=MX%+1:MON%=131:IFMX%>=18PROCMOUT:GOTO330 ELSEIFY%>MY% MY%=MY%+1:MON%=128:MX%=MX%-1ELSEIFY%<MY% MY%=MY%-1:MON%=128:MX%=MX%-1
  320IFSTUN%SOUND&13,-15,200,2:STUN%=FALSE
  330PROCFIND(MX%,MY%):IFQ%=MH%ORQ%=143THENVDU31,MX%-1,MY%-1,32,31,MX%,MY%-1,32,31,MX%-1,MY%,32,31,MX%-1,MY%-1,32,17,5:MX%=1:MY%=16:VDU31,MX%,MY%,MON%:ENDPROC ELSEIFMX%=X%ANDMY%=Y% THENPROCDEAD:ENDPROC
  340IFQ%=153 FILL%=FILL%-1:SOUND&13,4,101,1
  350VDU31,MX%,MY%,MON%:ENDPROC
  360DEFPROCFIRE:IFSTUN%THENENDPROC ELSEIFNOTFIREN%THEN380ELSEFIREN%=FALSE
  370IFLEFT%THENDX%=-1ELSEDX%=1
  380VDU31,BX%,BY%,32:BX%=BX%+DX%:PROCFIND(BX%,BY%):IFQ%=MON%THENPROCSTUN:ENDPROC ELSEIFQ%=MH%PROCKILL:ENDPROC
  390IFQ%>128 ANDQ%<158 FIRE%=FALSE:ENDPROC
  400VDU17,12,31,BX%,BY%,154,17,128:ENDPROC
  410DEFPROCSTUN:IFSTUN%THENENDPROC ELSESC%=SC%+100:SOUND3,-15,129,1:SOUND3,-15,117,1:SOUND3,-15,101,1:STUN%=TRUE:T%=T%-10:VDU17,5,31,MX%,MY%,MON%,17,7,31,0,1:PRINT;SC%:FIRE%=FALSE:TIME=0:ENDPROC
  420DEFPROCMOUT:MX%=18:IFMY%>15 THENMY%=MY%-1:MON%=129:ENDPROC ELSEIFMY%<15 MY%=MY%+1:MON%=128:ENDPROC
  430MON%=131:VDU17,5,31,MX%,MY%,32:MX%=19:VDU31,MX%,MY%,MON%:IFMX%=X% ANDMY%=Y%PROCDEAD ELSEPROCUM:VDU17,1,31,MX%,MY%,129:MX%=1:MY%=16:ENDPROC
  440DEFPROCW:VDU17,7,31,WX%,WY%,CW%:IFWY%=30PROCWOUT:GOTO470
  450IFX%>WX%WX%=WX%+1ELSEIFX%<WX%WX%=WX%-1
  460IFWY%<30WY%=WY%+1
  470PROCFIND(WX%,WY%):IFWX%=X%ANDWY%=Y%PROCDEAD:ENDPROC
  480IFQ%=MON%ORQ%=154ORQ%=143VDU31,WX%-1,WY%-1,32,31,WX%,WY%-1,32,31,WX%-1,WY%,32,17,2:PROCFIND(4,3):CW%=Q%:WX%=4:WY%=3:VDU31,WX%,WY%,MW%:ENDPROC ELSEIFMW%=141MW%=142ELSEMW%=141
  490VDU17,2,31,WX%,WY%,MW%:CW%=Q%:ENDPROC
  500DEFPROCWOUT:WY%=30:PROCFIND(4,3):CW%=Q%:IFWX%>15 THENWX%=WX%-1:ENDPROC ELSEIFWX%<15 WX%=WX%+1:ENDPROC
  510VDU17,2,31,WX%,WY%,32:WY%=31:VDU31,WX%,WY%,MW%:IFWX%=X% ANDWY%=Y%PROCDEAD ELSEPROCUM:PROCMM:VDU17,1,31,WX%,WY%,134:WX%=4:WY%=3:ENDPROC
  520DEFPROCDEAD:LI%=LI%-1:SOUND0,3,101,10:VDU17,[illegible]TO148:VDU31,X[illegible],Y1%,A%:FORB[illegible]=1TO5[illegible]:NEXT,:VDU17,[illegible],2,31,MX%,MY%,32,31,X1%,Y1%,32:X%=18:Y%=15:VDU31,MX%,MY%,32,31,WX%,WY%,CW%:MX%=1:MY%=15:WX%=4:WY%=3:VDU17,7
  530STUN%=FALSE:PRINTTAB(9,1);LI%:MAN%=152:VDU17,3,31,X%,Y%,MAN%,17,5,31,MX%,MY%,MON%:IFSH%>7VDU17,2,31,WX%,WY%,MW%
  540FORB%=1TO5000:NEXT:X1%=X%:Y1%=Y%:IFLI%=0DEAD%=TRUE

  550ENDPROC
  560DEFPROCHS:VDU19,1,0;0;:STUN%=FALSE:SH%=SH%+1:X%=18:Y%=15:MX%=1:MY%=15:WX%=4:WY%=3:CW%=32:MAN%=152:X1%=X%:Y1%=Y%:PROCTUNE(720):VDU12,20:PROCSCREEN:FILL%=0:ENDPROC
  570DEFPROCKILL:VDU17,7,31,WX%,WY%,CW%:PROCFIND(4,3):CW%=Q%:WX%=4:WY%=3:VDU17,2,31,WX%,WY%,MW%:FIRE%=FALSE:SOUND&13,4,0,10:SC%=SC%+100:T%=T%-10:ENDPROC
  580DEFPROCEND:RESTORE:VDU17,4,17,135:PRINTTAB(1,15);SPC(18);:VDU31,5,15:FORA%=1TO9:READA$:PRINT;A$;:FORZ%=0TO1500:NEXT,:GCOL0,1:PROCTUNE(760):FORZ%=0TO640STEP4:MOVE0,Z%:DRAW1280,Z%:MOVE0,1024-Z%:DRAW1280,1024-Z%:NEXT:*FX21,0
  590VDU12,22,7:IFSC%>HI%(5)THEN640
  600PRINT:FORA%=1TO2:PRINTCHR$132;CHR$157;CHR$141;CHR$134;"  Q*Bert's Revenge Hall Of Fame":NEXT:PRINT:FORI%=1TO5:PRINTTAB(3,I%*2+5);I%;")";CHR$133;HI%(I%);"....";CHR$129;HI$(I%);:NEXT
  610PRINTTAB(0,22);CHR$157;CHR$130;CHR$136;"  Press <SPACE> to play again":REPEATUNTILGET$=" ":PRINTTAB(0,22);CHR$157;CHR$130;CHR$136;"   Get Ready...           ":*FX15,1
  620ENDPROC
  630DATA"G","A","M","E"," ","O","V","E","R"
  640SOUND1,5,101,100:SOUND2,5,101-48,100:SOUND3,5,101+48,100:FORA%=1TO2:PRINTTAB(0,A%);CHR$157;CHR$141;CHR$(128+A%);"          Congratulations!":NEXT:PRINT:PRINTCHR$131;"Your score of";CHR$134;RIGHT$("00000"+STR$SC%,5);CHR$131 was";
  650PRINT;" enough to get";PRINTCHR$131"your name into the Hall Of Fame.":PRINT:PRINTCHR$129;CHR$136;"Please enter your name (not more than ";PRINTCHR$129;CHR$136;" 20 characters.)":PRINT:PRINTCHR$130:INPUTTAB(1,10)A$:VDU7
  660IFLEN(A$)>20CLS:GOTO640
  670FIX%=0:REPEAT:FIX%=FIX%+1:UNTILHI%(FIX%)<=SC%ORFIX%=5:A%=6:REPEAT:A%=A%-1:HI%(A%)=HI%(A%-1):HI$(A%)=HI$(A%-1):UNTILA%=FIX%:HI$(A%)=A$:HI%(A%)=SC%:CLS:GOTO600
  680DEFPROCASSEM:OSBYTE=&FFF4:FORA%=0TO2STEP2:P%=&2B00
  690[OPTA%
  700.CODE LDA#135:JSROSBYTE:STX&2CCC:RTS
  710]:NEXT:ENDPROC
  720DATAnb,md,l',i3,i3,k_,g[,g[,bV,mX,'T,JQ,JQ,_S,[O,[O,VJ,XL,TH,QE,DE,SG,QE,PD,DC,DC,EEE
  730DATAieM,hA,ieY,ieY,ieH,ieH,i:Y,I:Y,njF,njF,n^Y,n]Y,n^M,n'M,nbY,nbY,em>,d>,ebY,ebY,ebE,ebE,ieY,:eY,jeC,jeC,jtV,:ZV,j[J,j]J,j^V,g^V,bRF,bRF,gVR,mVR,bDC,gDC,bPO,mPO,'OE,'QE,'YQ,'YQ,eF,eF,eYQ,mYO,mL,hL,kXS,pXS,mP,nP,kXS,[XS,[XO,[XO,[XQ
  740DATA[XQ,jXO,jXO,jXH,jXH,ieA,hA,ieY,ieY,ieH,ieH,l:Y,l:Y,njF,njF,n^Y,n]Y,n^M,n'M,nbY,nbY,eb>,d>,ebY,ebY,ebE,ebE,ieY,ieY,jeC,jeC,j[V,jZV,j[J,j]J,j^V,g^V,mRF,bRF,gVR,mVR,bDC,gOC,mPO,mPD,'OE,'MA,'L@,'J>,e\I,e\I,e\I,YI=,i]H,i]H,l'Y,g^Y,g^T
  750DATA' T,b^H,d^H,e]M,e]M,EEE
  760DATA'ZQ,'ZQ,Z'J,Z'J,dYO,YeO,YbS,'XS,'XT,'XT,'OC,'DC,:q',Iq ,,EEE
  770DEFPROCTUNE(L):RESTOREL:*FX15
  780READS$:IFS$="EEE THENENDPROC
  790FORI=1TO3
  800IFI =LEN(S$)THENSOUND1,-12,(ASC(MID$(S$,I,1))-65)*4+25,2 ELSESOUND1,0,1,2
  810NEXT:GOTO780
```

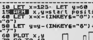
SKETCH IT

In this short routine Maurice Gavin explains the differences between the Spectrum and Spectrum + when you are using cursor control

```
   5 REM  SPECTRUM+ sketchpad
  ------------------------------
    via IN command & cursor keys
    by Maurice Gavin: 1985
  ------------------------------
  10 LET x=123: LET y=60
  15 REM  x,y=start position
  20 LET a=IN 61438
  30 LET b=IN 63486
  40 LET x=x-(b=230)+(a=251)
  50 LET y=y-(a=230)+(a=247)
  60 PLOT x,y
  70 GO TO 20
```



```
   5 REM  SPECTRUM sketchpad via
  ------------------------------
   INKEY$ command & 5,6,7,8 keys
 (=cursor keys original Spectrum)
   by Maurice Gavin: 1985
  ------------------------------
  10 LET x=123: LET y=60
  15 REM  x,y=start position
  40 LET x=x-(INKEY$="5")+(INKEY
$="8")
  50 LET y=y-(INKEY$="6")+(INKEY
$="7")
  60 PLOT x,y
  70 GO TO 40
```



```
   5 REM  IN command for Yes/No?
  ------------------------------
 100 INPUT ""
 110 PRINT 60;"ok ? (Y/N)"
 120 PAUSE 0: LET a=IN 57342
 130 IF a<>239 THEN PRINT "No"
 140 IF a=239 THEN PRINT "Yes"
 150 GO TO 100
```

The cursor or arrowed keys on the Spectrum+ are now conveniently placed at the bottom of the keyboard either side of the "space bar".

Unfortunately in their new location these keys no longer respond to the INKEY$ command. Any program written for the original Spectrum and using keys 5, 6, 7 and 8 at the top of the keyboard via INKEY$ will be inoperative using the new cursor keys. Luckily, however, the IN command remains compatible with both machines and both sets of keys.

Page 160 of the Spectrum Manual explains the use of the IN command to check if a key has been pressed. Unfortunately the Spectrum + Users Guide on page 60 incorrectly states the byte values for the keyboard addresses (although the addresses themselves appear to be correct).

The correct addresses and byte values for the cursor keys are as follows —

Cursor left or key "5"	IN 63486,239
Cursor right or key "8"	IN 61438,251
Cursor up or key "7"	IN 61438,247
Cursor down or key "6"	IN 61438,239

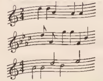
Cursor "left" and key 5 are read from the top left-hand half of the keyboard to address 63486. The remaining cursor keys and keys 6, 7 and 8 are read from the top right-hand half of the keyboard to a single address i.e. 61438 with an appropriate byte value.

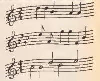
The sketchpad routines included here are used to demonstrate the IN and INKEY$ commands to read if a key has been pressed. Because cursor left (key 5) has a different address from the other cursor keys it is possible to produce diagonal lines to the left by simultaneously holding cursor "left" and cursor "up" or "down" together.

Diagonal lines to the right are not possible, using this routine, because these cursor keys share the same address i.e. 61438. The second routine uses the INKEY$ command which will only recognise if a single key has been pressed.

The IN command does not distinguish between upper and lower case letters and the final routine shows how the IN command can be used to identify key "Y" (or "y") at address IN 57342,239. Any other key produces the response "No".

MUSIC 500





Shingo Sugiura sings the praises of the Music 500 system for the BBC

The Beeb has a dialect of BASIC with very powerful commands to control the sound. Not only does it allow you to play short pieces of music without too much difficulty, it allows you to control the waveform of a sound and reproduce it with ease. Not surprisingly, many people get immense satisfaction from transcribing music for the Beeb.

However, there comes a time when you realise that the Beeb's built-in sound chip with its three voices is just too limiting to play any decent music and BASIC is just a pain in the neck for composing tunes. So I was quite surprised that it has taken so long for Acorn to produce a synthesiser specially for the Beeb but I think it's been worth the wait.

Music 500 is not much to look at. It comes in a metal box, about the size of a half-height disc drive and is connected to the Beeb via a ribbon cable to the 1MHz bus. As with all peripherals, the ribbon cable is much too short and I had to reposition everything before I could use the Beeb, see the monitor and access the disc drives and the printer at the same time!

Then I came across another snag. The cable to connect the system to an external amplifier (the Beeb's internal speaker cannot be used) is not included so I quickly rushed to my local Hi-fi dealer and bought an appropriate cable.

Before you can use the Music 500 system, you must load in AMPLE (which is an acronym for "advanced music programming language"). This is a big program so I was pleased to see that Acorn have supplied a program to transfer all the necessary files from tape to disc. They have also included various demonstration pieces for you to listen to. These are very well done and shows the incredible powers of the Music 500 system. However, before you can start making pieces like these yourself, you must learn a totally new language — AMPLE.

Some of you may think that supplying a brand new language is going slightly over the top but it is in fact the most sensible

thing to do. In music, things tend to happen simultaneously A conductor does not rapidly go through every single player for every single note! It is for this reason that AMPLE is multi-tasking

Some of you might be surprised to learn that it uses reverse-Polish notation as in forth, so the familiar command "MODE7" would be entered as "7 MODE" in AMPLE This may seem a little odd (or even ridiculous) at first but you will quickly get accustomed to the idea In fact, AMPLE is a very powerful music composition language indeed

On booting the disc (or loading it from tape), AMPLE greets you with the message—
AMPLE model BCE Version 1 0
(C) 1984 Hybrid Technology
%

The "%" is the prompt for you to enter commands, just like " X" in BASIC Now, you can play simple pieces of music directly by using quite readable notation and store them away as "words"

A word is a predefined set of instructions or a new function (rather like procedures in BASIC) and should be familiar to Forth users Words are available to control basic things like the duration and pitch of a note, tempo, rests, key signatures as well as creating the waveforms of the sounds themselves

As you could probably imagine, creating a new sound is quite complex (even more complicated than the ENVELOPE command!) The features available will not mean much if you have never used synthesisers before but they include ring modulation, frequency modulation (used by the very successful Yamaha DX range), white noise (for percussive effects) synchronisation and detuning (to fatten up sounds)

Waveforms may be created by harmonic synthesis and geometric synthesis Creating waveforms is probably the most difficult part of AMPLE The manual is rather difficult to understand (ok, I'll be honest, it's virtually incomprehensible) and it took me a long time to get even a squeak out of the system

Luckily, 13 preset waveforms comes with the package so you can start creating music without having to worry about the sounds themselves but let me assure you that mind boggling effects are possible if these features are exploited

AMPLE is indeed a very powerful language but unfortunately, the manual leaves a lot to be desired Not only has the manual no index and printed by a dot-matrix printer, it is full of technical gobbledegook and is very badly set out

In fact, unless you are a competent programmer and a musician, I would have thought the manual to be totally incomprehensible However, Music 500 is a very powerful piece of hardware accompanied by a very powerful and innovative language and the quality of manual should not put you off

Many peripherals are planned for the 500 system There is already a keyboard by ATPL and Hybrid themselves are planning to release a keyboard and a MIDI interface soon I would personally like to see AMPLE implemented on ROM. This would make things a lot easier for tape users and would obviously allow much bigger pieces to be written Also, a cheap but good quality amplifier would not come amiss, after all, not everyone has a Hi-fi system next o his/her Beeb

A version of Island Logic's music system for the 500 should be useful for those who cannot read music (or those who prefer the traditional tadpole like symbols to the textual notation of AMPLE) On top of that lot, a set of definitions to mimic popular instruments, a compilation of popular music pieces and a better manual would all be a welcome addition

At the moment, there is nothing to touch the Music 500 system in terms of power, flexibility, quality of software or value for money If you are thinking of buying a synthesiser, I would strongly urge you to go and see (and hear) the 500 in action After all, at £199 00, it's a lot less than most decent dedicated synthesisers **S.S.**

Technical specification

Channels	
Number	16
Frequency range·	0 20KHz
Frequency resolution	0 0056Hz
Pitch range	> 10 octaves
Pitch resolution	1/16 semitone
Sampling rate	46 875 KHz
Stereo positions	7
Waveforms	
Number	14
Harmonic definitions,	16 harmonics
Geometric definition·	128 points
Envelopes	
Number	13
Types	pitch and amplitude
Definition types·	ADSR, cycle and segment
Number of segments	10 max
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LETTERS PAGE

FOR EVERY
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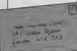

Replace or repair?

All too often computers are returned to shops within twelve months of purchase and their owners are told they will be sent away for repair, and then they have to wait up to a month for the return of their machine.

Readers may like to know that if a fault occurs in their machine within twelve months of purchase they are legally entitled to a new machine as a replacement. It is the same with most consumer goods.

The assistants will often persist in advising you to take repair but it is actually against your best interests. Once you submit to having it repaired it means that during the remaining period of the twelve months it can only be repaired again — you can't replace it.

Also it is not advisable to fill in the guarantee card as the manufacturers all print at the bottom 'Your statutory rights are not affected' meaning that that piece of card is useless.

A till receipt is the only thing needed as it is the shop with whom you have the twelve month guarantee. This letter was written as a direct result of a recent clash I had with Dixons over a radio cassette. I was refused a replacement and a refund and the assistant would not back down until I submitted it for repairs.

I have since learned that I was entitled to a replacement and so are you if you are in the same position. If they refuse, get the manager, and if he refuses call the head office or get advice.

Don't let my mistake be one of your own. It is your right, you know!

Andy Clarke, Atherstone

In praise of older micros

Firstly may I congratulate you on producing such an excellent magazine, however I do have a few grievances.

Firstly, would it be possible to replace the pictures above the software reviews with actual screen shots of the program. Surely the type of program can be deducted from the review.

Also could you please publish more articles on topics such as different popular languages ie Pascal, Forth instead of the numerous articles about the "introduction to BASIC programming" and others of that type? Would it be possible to include a "helpful routines page"?

Finally my biggest complaint — the Spectrum (no I'm not another Spectrum basher, well, not quite) I agree that the Spectrum and to a much lesser extent the C64 are fairly decent machines but could the amount of software reviews devoted to them be reduced slightly in favour of some of the more, dare I say it, outdated machines such as Dragon, Texas and Oric? I realise that little new software is being released for such machines but surely it is better than reviewing yet another Manic Miner rip off?

Colin Wilcox, Manchester

IT'S A RACE

Get those skates on if you want to enter our Mikro-Gen competition and there are big prizes on offer!

It's speed that counts in this very special competition from Mikro-Gen.

They have a new game due out in the autumn based on the Battle of The Planets television programme and as a taster for Home Computing Weekly readers they are offering 200 cassettes of a preview game FREE!

All that you have to do to take advantage of this special offer is send the coupon below to Mikro-Gen and the first 200 they receive will get a copy of the game by return.

With the game will come instructions on how to enter the Battle of the Planets competition in which the highest scorer will have the prize of a trip to London and the chance of a £250 cheque and £75 worth of games. There is certain to be one HCW reader in the final and they will win £30 worth of games in addition to a Mikro-Gen Trophy.

So get yourselves moving all you Spectrum owners, you have to be one of the first 200 to get the tape and then you have to play the game in earnest in order to increase your score. The high score codes must be back with Mikro-Gen by Friday 27th September if you want a crack at the prize.

Don't wait, post the coupon today, you have a great deal to gain and only 17 pence to lose.

Micro-Gen's Battle of The Planets

Entry Coupon

I am a Spectrum owner and would like to have a go at the special Battle of The Planets pre view tape. If I am in the first 200 please send me a copy. I understand that if 200 tapes have already been despatched I will not be able to enter or receive a tape.

Name ________________

Address ________________

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Post to: Mikro-Gen, Ref HCW Battle, 44 The Broadway, Bracknell, Berks. Do NOT post to HCW in London!

3 NEW COMMODORE 64 CASSETTES OUT NOW FROM ARIOLASOFT ▶▶

▶ KARATEKA

A Karateka is one trained in the Way of Karate the centuries old martial art of Japan In this classic story of one man s battle against insurmountable odds your mission is to rescue a beautiful princess from a dungeon deep inside the palace of the evil warlord Akuma

Broderbund have created an arcade action game as close to an interactive movie as computer game players are likely to see Extremely large and realistically animated figures come alive against beautifully detailed scrolling backgrounds You are in full control of the hero s every movement Walking running bowing and all fighting movements including the strategic timing and placement of kicks thrusts jabs and punches are an integral part of the gameplay

The story progresses through a series of increasingly more challenging encounters with the enemy until you finally meet the ultimate opponent Built-in surprises make trying to rescue the princess difficult and addictive

- ▶ *Suspenseful, move-like story*
- ▶ *Run, Punch & Kick ability*
- ▶ *Smoothly animated characters*
- ▶ *3D scrolling backgrounds*
- ▶ *Realistic Karate fights to the death*

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A LONE FIGHTER AGAINST DEADLY ALIENS

▶ STEALTH

STEALTH has everything the arcade action player dreams of You are right at the heart of the action as you pilot a powerful Stealth Starfighter on a mission of utmost importance – to destroy the Dark Tower and with it the Merciless Council of Nine

The sky is alive with warp-fighters closing in from all directions The landscape bristles with automated radar towers firing heat seeking projectiles of doom Robot-controlled photon tanks high energy laser artillery all of this and more await players of STEALTH

- ▶ *Stunning 3D effects*
- ▶ *Deadly Enemy Attack Planes*
- ▶ *5 Levels of Skill*
- ▶ *Vicious Heat-Seeking Missiles*
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▶ THE CASTLES OF DOCTOR CREEP

Thirteen castles containing over 200 rooms await inspection You will find each room filled with challenging puzzles and sinister surprises Force fields electrostatic generators death rays and wandering mummies are only a few of the treats in store

THE CASTLES OF DOCTOR CREEP is a very challenging arcade strategy game full of surprises and the Doctor s rather weird sense of humour There s no turning back on a tour of the good Doctor s home You will want to keep coming back for more of the Creepy hospitality

- ▶ *2 Player interactive action*
- ▶ *13 Separate Castles*
- ▶ *Over 200 Rooms*
- ▶ *Mummies and Frankensteins*
- ▶ *Deadly Lightning Machines and Trapdoors*
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▶ KARATEKA ▶ STEALTH ▶ CASTLES OF DOCTOR CREEP [illegible]

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HIGH PERFORMANCE PROGRAMS

Graeme Marsh

Dotty over Mr Do!

Lee Caller from Staines tries on his Atari reviewing hat and has a crack at US Gold's Mr Do!

This game first made an appearance in the arcades some years ago and was a mild hit. Now US Gold have released it on the Atari and it's every bit as good.

The cassette takes some time to load, but when completed you are greeted with a clear title page with options for one or two players using either or both of their joysticks in a left/right handed fashion — something new.

The idea of the game is to collect cherries using your clown. He can defend himself with a powerball, killing the various ordinary boss, diggers and henchman monsters. In order to gain an extra Mr Do! you must kill all boss monsters who carry a letter to spell out the word "Extra" as shown at the top of the screen.

There are ten main screens and each is laid out with "cute" graphics. The monsters are fast and yet you feel sorry either killing them with the powerball or letting one of the many giant apples that litter the screen fall on them.

After every three screens a cartoon reveals time taken and score in great animation. The best is yet to come when you are given an extra life in the form of a scrolling masterpiece.

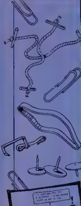
Sound is constant throughout, playing a different tune for each event, which can be turned off (although I don't know why) at any time.

This has to be one of US Gold's best yet and if you don't have it — get it. It's a joy to play and pleases no end, from the well defined characters to the crying monster cartoon and the pleasant music.

Price: £9 95 or £14.95 (Disc)

Publisher: US Gold

Address: Unit 10, Parkway Industrial Centre, Heneage Street, Birmingham B7 4LY



Reader's hi-score table

Name	Game	Machine	Score
Edwin Armstrong	Burgertime	TI 99/4A	368,450
	Alpiner	TI 99/4A	91,104
Stephen Pickering	Formula One Simulator	C16	206,730
	Daley Thompson Star Events Day 1	C16	10,464
Mathew Caller	Tapper	Spect +	56,600
	Spy vs Spy	Spect +	9,860
	Bug Eyes	Spect +	39,610
Craig Jones	Cruncher	C16	109,300
	BMX Racers	C16	31,750
	Zodiac	C16	31,150
Tobias Peberdy	Beach-Head	CBM64	186,750
	Dig Dug	CBM64	15 430
Demetrius Kalles	Jet Pac	Spectrum	71 480
	Phoenix	Spectrum	7 200
	3 D Ant Attack	Spectrum	51,800
Graeme Marsh	Manic Miner	Spectrum	30,518
	Jet Set Willy	Spectrum	76 items
	Jet Set Willy 2	Spectrum	160 items
Paul Lucas	Flak	C64	42,000
	Aquaplane	C64	53,000
	Zaxxon	C64	71,800

When sending in your hi scores please remember to include the make of your machine.

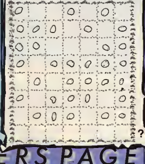
SOLUTION to last weeks puzzle

45. It's not difficult to work out that there are 3 ways to spell C; 6 to spell CO and 10 to spell COM. 3,6,10 . . . has the pattern +3, +4 . . . so adding 5 then 6 and so on gives 15,21,28,36,45. (You may know these as triangular numbers).

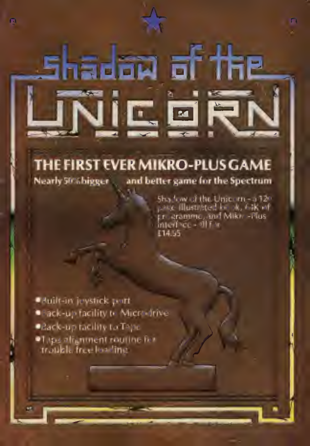
Spuds Up

Harvest time at Farmer Nure's potato field has produced a curiously mathematical crop. A ○ shows the position in each row where a plant has thrived.

Can you complete the picture by marking in the X's where plants should be growing in the bottom row?



READERS PAGE



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